







0062641

ROYAL GARDENS KEW.



Period.





Digitized by the Internet Archive  
in 2018 with funding from  
BHL-SIL-FEDLINK

<https://archive.org/details/journalofhorticu3231hogg>







January 7, 1892.

THE  
JOURNAL OF HORTICULTURE,  
COTTAGE GARDENER,  
AND  
HOME FARMER.

A CHRONICLE OF COUNTRY PURSUITS AND COUNTRY LIFE, INCLUDING BEE-KEEPING.

CONDUCTED BY  
ROBERT HOGG, LL.D. F.L.S.

Established



in 1848.

VOLUME XXIII. THIRD SERIES.  
JULY—DECEMBER, 1891.

LONDON:  
PUBLISHED FOR THE PROPRIETOR, 171, FLEET STREET.



LONDON :  
PRINTED AT THE JOURNAL OF HORTICULTURE OFFICE,  
171, FLEET STREET.





## TO OUR READERS.

---

As will, we trust, be recognised by a glance at the accompanying index, the matter in our pages during the latter half of the year 1891 has not been less varied than in previous volumes. We have reason to believe, also, judging by the estimates of many readers who have spontaneously expressed their opinion, that in interest and usefulness the reputation of the JOURNAL OF HORTICULTURE is fully sustained.

To all who have shared in completing the volume so satisfactorily we desire to tender our hearty thanks, and to record our appreciation of their services in supplying information and affording instruction for distribution over the whole wide world of Gardening.

While we deeply regret that some of our friends and associates have been called to rest from their labours after doing good work in Gardening and for Gardeners, we gratefully remember that the whole of our immediate coadjutors remain to aid us in creating a wider interest in Horticulture, and striving for higher excellence in the cultivation of plants and crops that enrich our gardens and beautify our homes.

In this work we shall continue to engage; and knowing we have as helpers men of ripe experience in every branch, with younger practitioners of bright promise, we look forward in full confidence that as progress is reported week by week the approval of our friends—wealthy patrons of Gardening, earnest amateurs and professional workers, old and young—will be secured.

It is gratifying to observe that more and more attention is being given to Gardening. It is included in the scheme of Technical Education by many public authorities. Schoolmasters and teachers are being taught in order that they may the more effectively give lessons in scientific and practical Horticulture in schools; evening lectures are also attended by all classes of the community, the affluent and the sons of toil taking lively interest in the proceedings, and a true horticultural spirit is being aroused that will not easily subside.

Our "Technical Education Scheme" is of a different character, and we trust it will stimulate to the acquisition of the best information procurable on certain specified subjects of general importance, and that this information will be conveyed in acceptable literary form.

That there is a brighter future for Gardening and for practical, intelligent, accomplished Gardeners is the hope, desire, and belief of the Editors of the JOURNAL OF HORTICULTURE, who wish to reciprocate the good wishes and kind greetings of a host of friends.







## INDEX.

- BUES ALCOQUIANA, 301; A. firma, 305; A. Veitchi, 03  
 Acahyphas, 274  
 Achillea millefolium, 270  
 Adiantums and Anthuriums, 355  
 Esculus, American species, 46  
 African Groundsel, 399  
 Agave americana variegata in flower, 408  
 Agricultural College for Kent, Surrey, and Sussex, proposed, 306  
 Alder, insects on, 12  
 Alnwick Seedling Vine unfruitful, 528  
 Allamanda Williamsi, 63, 91; notes on, 145  
 Allamandas, 397; winter treatment of, 58  
 Allerton Beeches, notes at, 387  
 Alligator Pear, 454  
 Amaryllis Belladonna, 212  
 Amasonia punicea, 397  
 Amateurs and single-handed gardeners, 430  
 Amelanchier florida, 5  
 American Apples, arbitration case, cost of transit, 471; shipments of, 562  
 American Cowslips, 477  
 Ammoniacal carbonate of soda solution and Tomatoes, 255  
 Anemone apennina, 5; japonica alba, 367; blanda from seed, 506  
 Anglian (East) Horticultural Club, 287  
 Annuals for spring, 145; hedges of, 281; in pots, 421  
 Anthurium Liliastrium, 111  
 Anthuriums, new, 7  
 Antwerp Exhibition, 46  
 Apple and Pear tree unfruitful, 12; thinning, 10; twigs barked, 86; pruning espaliers, 569  
 Apples, London Pippin, 34; thinning, 20; New Zealand, 100; Winter Pearmain, 144; early, 156; Benoni, 235, 239; Nonesuch, 277; keeping, 316; early planting of, 388; succession for amateurs' garden, 402; the Croft Angry, 431, 508; Pear shaped, 475; importations, 473; supply and planting, 509; English and American, packing and selecting, 531; canker on light soil, 551; supply, 558.  
 Apple trees for orchards, 257; cankered, 507  
 Apricots, good varieties, 464  
 Apricot weevil, 147  
 Aquarium (Royal) Fruit Show, 328  
 Aquilegias, white, 6  
 Aralia Veitchi, grafting, 506; as table plants, 557  
 Arboricultural (English) Society's excursion and meeting, 202  
 Arisaema Wrayi, 425  
 Aristolochia gigas, 338  
 Artichokes, White Jerusalem, 539  
 Ashford Vineyard, 557  
 Asparagus, a graceful, 553  
 Asparagus, mulching, 403; refractans arboreus, 310; notes on, making beds, forcing, 447; guano for, 464  
 Aster Harbinger, 156; the perennial, 270  
 Auricula houses, 368, 406  
 Auriculas at Norwood Green, 139; under handlights, 238; notes on, 263; in Scotland, 322; culture and protection of, 381  
 Australia, economic plants of, 48  
 Australian fruit importations, 287  
 Avicennia nivea, 111  
 Azaleas dying, 78; exhausted, 573  
 Azaleas and American plants, 343
- BAPTISIA EXALTATA, 95  
 Barbe du Capucin, 212  
 Barren wall trees, 556  
 Basingstoke Show, 184  
 Beans, kidney at Chiswick, awards for, 133; new kidney, 368  
 Bedding in Hyde Park, 81  
 Bedding plants, 83; and arrangements, 216  
 Beddington, Carshalton, and Wallington Society, 244, 366  
 Bedford Show, 74  
 Bees—sneering foreign, a controversy, 11; queen excluder zinc, disputes on, 32, 55, 99; Doncaster Show, 33; foreign, prolificacy in, snipers, 77; making bees, patent frames, Mr. J. M. Hooker and the standard frame, judges at Caledonian Show, 1875, Scottish Bee-keepers' Association, 78; pure Punic, 77, 120; swarming, 77, 120; experience, supering, comb foundation, 99; evolution of queen, hives at the Heather, with diagram, 120; the weather, 98; ages of, queen's piping, Punic queens, 146; seasonable hints, taking honey, 165; extracting from the brood combs, super clearers, 166; Punic bees, 166, 189; at the moors, drones, 189; driving, modern, teaching, Punic, 211; at the moors, 233; stocks, fixing foundation, 234; apiarian notes, at the moors, clearing supers, 253; position of the frame hive, hiving, 254; prices of Punic queens, 254; notes on, feeding, entrances, frames and hives, are Punic robbers? 275; Heather honey, 276; returning from the moors, 295; Punic robbing, 295; apiarian notes, 315; Punic bees, can bees be improved? preparing for next season, 315, 316; Punic, 335; preparing for the future, economy and utility, feeding, 355; Punic bees, bee societies, 356; seasonable notes, 375; honey at the Dairy Show, 393; bees at home, the drones, queen cells, Punic bees, 419; winter work, wax rendering, 463; a misapprehension and explanation, stands and floors, 485; divisional snipers, section cases, 527; supering, stores, 549  
 Beet, lifting and preserving, 377  
 Beetles, 276  
 Begonia Mrs. Faulkner, 18; Tuberos, 86; semperflorens carminea, 145; in pots and beds, 131; propagating, 145, 163; for winter, 183; Tuberos, 287  
 Benham Park, 536  
 Bertolonia, 165  
 Bilston Show, 186  
 Birch oil, 223  
 Birmingham Gardeners' Association, 308  
 Black Currant buds destroyed, 13  
 Blackberry wine, 235  
 Black Currant enemies, 88  
 Blacklow House, Liverpool, 554  
 Bocconia cordata, 201, 265  
 Boiler, saddle, furnace not drawing, 464; twin, 534  
 Book, review of, Travels and Adventures of an Orchid Hunter, 523  
 Border plants, staking, 98  
 Botanic (Royal) Society's evening fête, 4; Exhibition, 497  
 Botanical gardens in the tropics, 453
- Bougainvilleas, 397; B. glabra, 287  
 Bournemouth Gardeners' annual excursion, 245  
 Bouvardias at Henbury Hill, 408  
 Box edging, 357  
 Boyd, portrait of Mr. Thomas, 167  
 Bradley, death of Mr. S., 178  
 Brambles in gardens, 52  
 Brighton and Sussex New Horticultural and Improvement Society, 155  
 Brighton Chrysanthemum Society, visit to Surrey gardens, 180  
 British Fruit Growers' Association, Conference at Beddington Park, 84; at Cardiff, 54, 55; at Edinburgh, 246  
 Brotherton, portrait of Mr. R. P., 266  
 Brown, portrait of Mr. James, 267  
 Brugmansia planted out, 78  
 Brussels Spouts, 399  
 Buckeyes, the American, 543  
 Buddlea globosa, 88  
 Bulbophyllum amplum, 342  
 Bulbs for spring, 344; plunging, 398  
 Bush fruits, propagating, 525
- CABBAGE, ELLAM'S 5; SEED sowing, 76; heading of, 245; sowing, 252  
 Cabbage Lettices for summer, 328  
 Cactaceous plants, Mr. Major's, 135  
 Caladiums Léon Say and Louis Van Houtte, 134; as table plants, 557  
 Calanthes, versicolor, 504; at The Hendre, 537  
 Calderstones, a visit to, 324  
 Californian fruit, 562  
 Calne Show, 208  
 Camellia buds falling, 572  
 Campanulas, 98, 282; pyramidalis, 244, 307  
 Camphor for seeds, 367  
 Cardiff Parks, 110; Conference Show, Castle Gardens, 154  
 Carnation Germani, 517  
 Carnations and ricotees, 12; Society (National) Southern Show, 66; Northern Show, 161; in September, 263  
 Carnations from seed, 31; stands for showing, 34; tree, 119; at Chiswick, awards for, 132; Edith M. Wynne, Countess of Jersey, Madeline, Mrs. Walford, Queen of Bedders, Ruby, Victory, and Mrs. E. Sydenham, 134; at Slough, 138; Birmingham show of 140; Oxford Show, 142; buds withing, 149; Mr. C. R. Humbert and La Neige, 182; Souvenir de Malmesbury, 225; in pots, 282; dial, 506  
 Carrots, 397; evading maggots in, 34  
 Cae, an interesting market garden, 533  
 Caele Coch Vineyard, 135  
 Cattleya Dowiana aurea (Young's variety), 108; Hardyana Hamar Bass variety, 68; Behrensiana, 182; labiata vera, 262, 263; autumn flowering, 348  
 Cauliflowers, 252  
 Ceanothus Veitchi, 44  
 Celery, earthing, 188; nitrate of soda for, 321  
 Celosia pyramidalis in the autumn, 379  
 Centaurea cyanus nana compacta, 18  
 Chatsworth, Mr. Chester's appointment, 200  
 Chelone barbata, 232
- Cheltenham Show, 272  
 Chemistry of garden crops, 501  
 Cherries in Kent, 5; in houses, 294; forcing, 484  
 Cherry houses, 118; brandy, making, 191  
 Chertsey District Show, 30  
 Chicago Exhibition, 346; horticultural attractions, 493  
 Chiswick Show, 29  
 Chiswick Gardeners' Mutual Improvement Association, 287  
 Chionodoxa, 266  
 Christleton Rose Show, 92  
 Christmas, plants and flowers for, 50; Roses at Warwick, 539; supplies, 531  
 Chrysanthemums—modes of culture, 84, 153; under glass, 93; buds, 101; annual, 265; prospects of the season, 291; cultural notes on, 310; Miss Watson, 310; at Lewisham and Liverpool, 331; early, 346; at Chilwell, prospects for 1891, new varieties, 348; M. R. B. thuant, 349; shows, exhibition varieties of Chrysanthemum, 331; Mr. Knox's analysis, 331; Louis Boehmer, 333, 373; the Walker Chrysanthemum tube, 33, 407; Chrysanthemums at Maidenhead, 363; Chrysanthemums in the south, 364; at Rooksbury Park and Swanmore Park, 364; M. R. B. thuant, W. Wills, and Mrs. Nisbet, 373; South Shields Show, exhibition prize schedules, 382; Louis Boehmer, Vivian Morel, yellow Middle Lacroix, around Havant, 383; in the Isle of Wight, 384; around Liverpool, 384; at Fushbury Park and Perry Hill, 385; Chrysanthemum shows and nurseries; semi-early or October flowering varieties, 1891, 449; dwarf Japanese, 449; decorative value of, 471; single-handed gardeners' classes, 472; confusion at exhibitions, 473; Florence Davis and Vivian Morel, 473; dwarf Japanese, 473; at Slough, 480; Mrs. Robinson King, 483, 542; Amateurs' and gardeners' classes, notes on new varieties, 431; varieties for cutting down, readiness at exhibitions, revision of lists, hairy varieties, Florence Davis, Charles Gibson, 495; Robert Owen, 513; Mrs. H. Simpkins, E. J. Hill, Henry Perkins, J. S. Fogg, Riveys, T. Selwood, and Lizzie Cartledge, 504; new Japanese, 513; new American variety, 514; Mr. Simpkins, 515; Vivian Morel, 519; for cutting, 558; Robert Owen, 540; Vivian Morel, 541; new varieties, 542, 565  
 Chrysanthemum Shows—Southampton, 373; Havant, 393; Gosport, Kent County, 394; Brighton, Ipswich, 395; Watford, Finchley, 396; Watford, Wells, Portsmouth, 412; Brixton, 418; Dalston, Isle of Wight, Ascot, 414; Chiswick, Camberwell, Putney, Taunton, Crystal Palace, 416; St. Neots, Hordham, 417; Aquarium, 409; Kingston, 410; Devizes, Yeovil, 434; Leeds, Cirencester, 435; Longborough, Torquay, Momburgh, 436; Tiverton, Bournemouth, 437; Ware, Wimbledon, Winchester, 438; Exeter, Leicester, 439; Sheffield, 440; Birmingham, 448; Burne-
- CHRYSANthemum SHOWS—continued  
 month, Bath, 429; Chesham, 450; Teddington, 450; Wantage, 450; Diss, 451; Grimsby, 451; Bradford, 451; Eccles, Patricroft, and Pendleton, 452; Wokingham, 452; further note on Kingston, 453; Edinburgh, 454; Swansea, 456; Hitchin, 456; Cuckfield, 456; Liverpool, 457; Salisbury, 458; York, 459; Bristol, 460; Hull, 460; Grassendale and Aigburth, 461; Sutton Coldfield, 461; Wokingham, 461; Cardiff, Brentwood, South Shields, 462; National Society winter, 513  
 Cider, work on making, 56; making, 370  
 Cinerarias, 253; during autumn and winter, 300; mildew on, 356  
 Clematises, chargeable, 168; Lady Caroline Neville, 303; dying, 336; Clematis, 425  
 Clerodendrons in winter, 442  
 Cleveley, Allerton, notes at, 245  
 Climbing plants for northern districts, 424, 443; hardy for the north, 463  
 Cobham Park, 540  
 Cochlioda Noziana, 68  
 Codonopsis clematidea, 141  
 Colchester, Mr. F. Cant's nursery, 218  
 Compton Verney, 132  
 Conifers attacked by chermes, 81; notes on, 299; show, 310; Conference at Chiswick, 330  
 Convolvulus Sepia, 282  
 Cooper, carbonate of, use and preparation, 35  
 Copper in preserved vegetables, 540  
 Coreopsis, 157  
 Coriander, 528  
 Crawley Nurseries, 195  
 Crinum, 203, 205; amabile, 491  
 Crocuses in grass, 255  
 Crotons, 165; young plants of, 355  
 Crotons, Oadlums, and Coleuses, 274; as table plants, 557  
 Crown Imperials, 88  
 Croydon Gardeners' Society, 517  
 Crystal Palace Co-operative Show, 160  
 Crystal Palace Hardy Fruit Show, 332  
 Cucumbers in July, 11; diseased, cause and remedies, 12; in August, 165; notes on, 210; autumn and winter fruiters, 252; in autumn, 273; Cucumber and Melon leaves injured, 293; late, 314; for seed, 442; for winter, 346; in autumn, 354; in winter, 504  
 Cuphea Llavei, 333  
 Cupressus arizonica, 132; C. macrocarpa, 267; C. funnebris, 311  
 Currants, pruning, 525  
 Currant trees, summer pruning, 6; a prolific, 153  
 Cyclamens, culture of Persian, 269; fine, 497  
 Cyenoches chlorochilon, 19  
 Cyperus distans, 548; as table plants, 557  
 Cypripedium Engelhardtii, 109; C. Cornifolium and macrochilon, 134; C. Alfred, 153; C. Antigone and Pollettianum, 263; C. Pitcherianum, Williams' var., and radionum, 373; C. Youngianum, 405; C. insignis Sandera, 447; Masereolanum, 503; C. Leeanum giganteum, Cymbidium plicaterrimum, 504; Calypso, 559



**DACTYLIS GLOMERATA** VARI-  
GATA, 385  
Dahlias for cutting, 48, 98; new  
John Walker, Mrs. McIntosh,  
John Rawlings, Mrs. Stand-  
bridge, Arthur Ocock, T. W.  
Girdlestone, Miss Glascock,  
St. Catherine, Baron Schöller,  
Kynnerth, Swanley Cactus,  
Robt. Cannell, and Delicat,  
certified, 182; National  
Show, 225; Princess Christian,  
310; keeping, 370; stands for,  
376; for cutting, 409; note on  
the, 517  
Daffodils, prizes for 1892, 265  
Daisies on lawns, 153  
Dalston and De Beauvoir Town  
Chrysanthemum Society, 21  
Dam-on Brailley's King, 223  
Daniels, Messrs., of Norwich,  
263  
Daphnes, hardy, 367  
Day, Mr. J., 246  
Delphinium Robin Adair, 18;  
nudecaule, 45; note on, 63  
Dendrobiums, cultural notes  
on, 335; Statterlanum, 184;  
leucophotum, 174; Phalae-  
nopsis var. Schreoterlanum,  
325; O'Brienianum, 873;  
Leeanum, 537; in winter, 573  
Desmodium penduliflorum, 459  
Dianthus chinensis hybridus,  
87  
Dickson, death of Mr. Alfred,  
436  
Dickson, honour to Mr. George  
of Newtownards, 561  
Dipladenias, 337  
Disa grandiflora from Chats-  
worth, 68  
Dodecatheons, 476  
Dogwoods, 266  
Doronicum austriacum, 87  
Douglas Fir, 94  
Downside, 291  
Draining land, 358  
Dracaena n. t. colouring, 235; as  
table plants, 557  
Dunmore Show, 164  
Dunn, Mr., 225  
Dutch Horticultural Society, 337

**EALING HORTICULTURAL SO-**  
**CIENTY**, 65  
Earham Gardens, 43  
Echinops Ritro, 282  
Edge Hall, hardy flowers at,  
249  
Edinburgh (International)  
Show, 215, 246; fruit stealing,  
266; new plants, stealing  
fruit, awards to non-competing  
exhibits, 283; stealing  
fruit, 304  
Education in horticulture, 339  
Electroculture, 276  
Epilobium angustifolium, 270  
Epiphyllum Gaertneri, 531  
Eremus himalaicus, 283, 328  
Erica codonodes, 45  
Eryngium giganteum, 151;  
amethystinum, 200  
Escallonia exoniensis, 18  
Espalier trees, pruning, 569  
Essex Field Club, 5  
Eucharises unhealthy, 19;  
grandiflora, 277; note on, 548  
Euphorbia jacobiniflora, 335  
Everaerts, portrait of Mr., with  
rockery, 113  
Exhibitions, value of, 480  
Eynsford, 221  
Eynsford Horticultural So-  
ciety's challenge prizes, 476

**FAIRGRIEVE, MR.**, 217  
Farm—small farms, 15; diseased  
cow, 14; poor pasture, 14;  
Permanent pasture, 36; tem-  
porary pastures, 58; Journal  
of the Royal Agricultural  
Society, 80; farming on the  
Essex coasts, 102; autumn  
tillage, 153; new Turnip pest,  
124; review of Stephen's  
book 148; Agricultural Edu-  
cation, 170, 192; storing calves,  
236; in hand, 256, 278, 293;  
labour migration, 318; tiling  
land, 337; draining land, 358;  
the farm orchard, 400, 422;  
the far labourer 411; tillage,  
445; Webb and Sons' root  
competition, 456; manure for  
spring corn, 483; winter keep-  
ing, 507; dairy factories, 529;  
Royal Agricultural Society,  
530; Dairy schools, 55; the  
old year, 573  
Favourite flower beds, 194  
Fenn, Mr., at home, 46, 61  
Ferns—Mr. Lowe's work on  
British, 109; proliferous, 316  
Flgs in pots for early forcing,  
second crops, 76; manage-  
ment of, 118; renovating, 87;  
forcing, 251, 374; protection  
from frost, 525  
Fibbert and Cobnuts, 101  
Fir, fungus on, 48; tree borers,  
213  
Fish, Mr. D. T., 155  
Flood—in Somersetshire, 388  
Floral arrangements 83; de-  
corations at Birmingham, 88;  
at Warwick, 539

Floriculture in America, 245  
Flori-ta' flowers, seasonable  
hints on, 233, 520  
Flower artist in Japan, 215  
Flower beds, favourite, 239; in  
wet weather, 274; for winter  
Flower beds and spring, 437;  
notes on hardy, 499  
Flower garden, insects of the,  
261, 555; designs, 316  
Flower trade of Paris, 535  
Flowering trees and shrubs,  
343  
Flowers, notes on hardy, 15, 104;  
preserving, 65; gardenia,  
summer, 81; trade in Paris,  
90, 157; beds, favourite, 161;  
for cutting in winter, 169;  
self fertilising, 176; preserv-  
ing, 56  
Flowers and seeds, 434  
Fog in London, 549  
Forcing house, 503  
Forcing shrubs, 423  
Foxglove, abnormal, 121  
Franciscas, 397  
Freeseas, potting, 183  
Fruits—prolonging supply of  
hardy, Mr. A. Wright's essay,  
3, 42; the best fruits, fruit  
names, preparing the soil, 4;  
trees, protecting blossom, 81;  
crusade, Mansion House meet-  
ing, 37; Chiswick Conference,  
papers on, 43; prospects of,  
40, 65; summer pruning tree,  
53; crops in Yorkshire, 83;  
crops near Liverpool, 94; cul-  
ture in small holdings, con-  
ference at Biddington, 122;  
staging at exhibitions, 125;  
growing as an industry (Mr.  
Ballie's paper), 126; prepara-  
tion of soil for, 130; for cot-  
tagers, 133; culture in South  
Wales, 137; at Sawbridge-  
worth, 149; crops in Bedford-  
shire, 153; miles of, and land  
values, 171, Mr. Wood's fac-  
tory, 172; preparing for plant-  
ing, 196; culture in school gar-  
dens, 211; notes on hardy,  
protecting, 299; packing and  
marketing, Mr. Hammond's  
paper, 219; plantations in  
Kent, 220; railway charges  
for, 223; Congress at Man-  
chester, 245; growing in the  
south of Ireland, 243; culture  
and varieties, 267; the Man-  
sion House fund, 264; gather-  
ing, packing, and storing, 259,  
272; forcing, 313; culture in a  
town garden, 333; at the Man-  
sion House, 331; at autumn  
shows, 339; Conference at  
Manchester, 363; culture and  
evaporating, 427; culture in  
Trinidad, 431; packing, 464;  
culture, profitable in America,  
498; growing in Colorado, 532;  
British grown, 569; culture in  
South Australia, 541; profit-  
able, 566  
Fruit and vegetable crops, feed-  
ing, 558  
Fruit trees, buying, 311;  
pruning and labelling, 313;  
culture, early planting, and  
shelter, 359; hardy, planting,  
417; planting, 433; standard-  
trained, 510  
Fruit Show, proposed London  
International for 1893, 366, 379,  
392, 430  
Fruit stealing at Edinburgh,  
266, 283, 304  
Fruiters at Crawley, 195  
Fuchsias, 314; in bedding, 81  
Fungicides, 4, 17, 35  
Fungoid diseases, 473, 492  
Fungus on Pears, 254  
Funkias, 270

**GALLS ON PEAR LEAVES**, 376  
Gardeners' Mutual Improve-  
ment Associations, forming,  
317  
Gardeners' Orphan Fund, Rose  
Fair and Floral Fête, 5, 64,  
383  
Gardeners' Royal Benevolent  
Institution, 1; Mr. Chamber-  
lain's speech, 39  
Gardener, the Queen's, 178  
Gardenias, 145  
Gardening as a calling, 291;  
in California, 302; the British  
School of, 330  
Garden Pansies, 383  
Garden, suburban, Mr. Hen-  
derson's, 128  
Genoa, Botanical Congress at,  
316  
Gentiana acanthis, 45  
Gerbera Jamesoni, 63, 87  
Gladioli, Lemaine's hybrid, 46;  
note on, 98; Thalia, James  
O'Brien, and Bias, certificated,  
182; in 1891, 233; notes on,  
237, 324; hardy, 536  
Gladiolus ramosus, 87  
Glazed flower pots, 136, 157  
Gloucester root and fruit show,  
432  
Gloxinias at Reading, 38, 153;  
Roupe Park, 45; note on,  
274; from seed, 511  
Godetia, White Pearl, 18  
Golden shrubs, 105  
Gooseberries, cordon, 512;  
autumn treatment, 525

Gooseberry trees, summer prun-  
ing, 6; forming cordon trees,  
190, 410  
Grammatophyllum Measres-  
ianum, 342  
Grapes, ripening, and stoning,  
scalding, 10, 54; at Swanmore,  
45; shanking, 54; in Scotland,  
59; keeping, 233; stands for,  
at Edinburgh, 237; Muscat of  
Alexandria, shrivelling, 276;  
Black Hamburg, shrivelling,  
276; late, 294; ripening, 297;  
Muscat of Hungary, 303;  
stands for, 305; inar hing lat;  
on Muscat of Alexandria, 313;  
Chassela Napoleon, 372; late,  
not finishing well, 420; thin-  
skinned, keeping, 437, 554  
Greeting, a New Year's, 551  
Griffithia hyacinthina, 433  
Gypsophila paniculata, 282  
Gypsum as manure, 434

**H.EMANTHUS CULTURE**, 596;  
H. KATHARINE, 547  
Hampshire County Council,  
appointment of Horticultural  
Instructor, 493  
Hardy climbers for a trellis,  
528  
Hardy, death of M. François,  
497  
Hardy flowers in July, 15;  
notes, 150, 230, 239, 322, 401;  
at Edge Hall, 249; at Manches-  
ter, 364; water and bog plants,  
543  
Heating, calculations for, 79;  
from top of houses, 179; ar-  
rangements, 434  
Hedges of annuals, 281  
Helianthus decapetalus, 516  
Heuchera sanguinea, 201  
Hibberd, Shirley, memorial, 533  
Highgate Show, 74  
Hollyhocks, 179  
Holmes, the late Mr. W., 266  
Home-made wines and pre-  
serves, 60  
Hooper & Co. (Limited), 157  
Hop prospects in Surrey, 87;  
growing in Colorado, 161  
Horticultural College at Swan-  
ley, 431  
Horticultural education, 339;  
lectures, 512  
Horticultural progress, sixty  
years of, 152; progress, 301, 491  
Horticultural Society (Royal),  
Chiswick Show and Confer-  
ence, 4; Committee, 17, 67,  
83, 137, 139, 224, 273, 308, 372,  
391, 497, 423; Club, visit to  
Crawley, 111; Conference at  
Chiswick, 234; Journal, 269;  
Conifer Conference and the  
Scientific Committee, 330, 518;  
committees, 502; Journal, 543  
Horticultural Shows:—Hiv-  
wards Heath, 115; Liverpool,  
116; Southampton, 117  
Horticultural (United) Benefit  
and Provident Society's an-  
nual dinner, 352  
Horticulture among the  
ancients, 158  
Hot water pipes, joints split-  
ting, packing, 493; joints in,  
522  
Hoyacarnosa, 6  
Hunter, Mr., 222  
Hurstpierpoint Show, 143  
Hyacinths, early, 281; note on,  
550  
Hybridism, peculiarities of, 346  
Hybrids, anatomical character  
of, 83  
Hydrangea flowers falling, 12;  
dwarf, 54  
Hypericum Moserianum, 182,  
293

**INDIAN AND COLONIAL AP-**  
**POINTMENTS**, 285  
Insecticides, soft soap, sulphur  
and tobacco as, 2, 17  
Insectivorous plants, Mr. Hens-  
low's paper, 479  
Insects and their enemies, 34,  
453; of the flower garden, 114,  
231, 468  
Inwood and Iwerne Gardens,  
524  
Ipomoea Leari, pruning, 528  
Iris Robinsoniana, 19; ambri-  
ata, 185  
Ivy and damp walls, 497  
Ivies, 446  
Ixoras, cultural notes on, 145;  
I. Duffi, 310

**JASMINE, WINTER**, 79  
Jasminum floridum, 83  
Juniperis sphaerica, 311

**KENT COUNTY FARM FRUIT**  
**SHOW**, 432  
Kingston show, 410  
Kingwood Show, 203  
Kirk, Mr., 223  
Knight, death of Mrs., 209  
Kramer, death of Mr., 475

**LABURNUM SEEDS POISONING**  
**CHILDREN**, 178  
Lacquer tree, 431  
Laelia Perrini alba, 310  
Lakes, a day at the, 243  
Land, draining, 358  
Lank'steria Barteri, 551  
Lapagerias, 570  
Laurals from cuttings, 235  
Lavender, selling, 100, and  
culture, 101; "sweet bloom-  
ing," 271; for profit, 437  
Lawn, dressings for, 336  
Leaf soil, notes on, 491; its pre-  
paration and uses, 240  
Lectures, horticultural, 513  
Lee and Blackheath Show, 23  
Lee, Blackheath and Lewisham  
Society, 562  
Leicester Chrysanthemum So-  
ciety, 63; Show, 143  
Lettuce Blond Blockhead, 517  
Ligustrum lucidum, 235  
Lilies at Westminster, 63; forc-  
ing crowns of, 469  
Lilium maritimum, 18; elegans,  
88; Mr. Ingram's paper on,  
L. Washingtonum, 105; con-  
color, 131; potting, 184; L.  
candidum, 315; L. Harrisi,  
337, 387; L. auratum, 387;  
L. Harrisi, 570  
Lima Beans, 367  
Linaria vulgaris, var. Paloria,  
168; reticulata aureo-pur-  
purea, 204  
Lindelia spectabilis, 175  
Literary piracy, 156  
Liverpool Horticultural Asso-  
ciation, 539  
London park superintendents,  
179  
Love, John, and his garden,  
284  
Lunt, Mr. T., 247  
Lycaste costata, 197  
Lychnis viscaria fl. pl., 111;  
Lazsca, 174  
Lycium Atrium, 47, 539  
Lygnum scandens, 347

**MACHATTIE, MR. J. W.**, 246  
Mackinnon, Mr. G., 247  
Macleay, death of Sir George,  
5  
Madresfield Court Gardens,  
532  
Manchester Exhibition and  
Conference on fruits, 284, 333,  
366  
Manchester, hardy flowers at  
334  
Manure for Pea-sick soil, 99;  
animal matter as, 317  
Manning, the principles of,  
321; hints on, 350  
Marxerites all the year round,  
198  
Market garden law case, 538  
Market Gardeners', Nursery-  
men's and Farmers' Associa-  
tion, 561  
Market prices, 455  
Mawley, Mr. Edward, portrait  
of, 69  
McIndoe, Mr., portrait of, 221  
McKelvie, Mr., portrait of,  
219  
McLeod, Mr., portrait of, 225  
Mediars, storing, 355; stocks  
for, 434  
Melois flavovirens, 12; cultural  
notes on, 31; roots cutted,  
34; for autumn, 97; the latest  
in pots, 165; notes on, 210;  
late plants, 252; in frames, 314;  
Amberwood Beauty, 323  
Meston, death of Mr., 178  
"Meteorological Magazine,"  
Symons', 65  
Meteorological observations, 465  
Meteorological Society, Royal,  
549  
Meteorology of the United  
States, 363  
Methylated spirit for destroy-  
ing scale, 523  
Microcystis tritragona, 572  
Midland Counties Pansy, Car-  
nation, and Picotee Societies,  
516  
Mignonette as standards, 61,  
233; as a biennial, 433, double,  
454, 476, 498  
Miles, death of Mr. Frank, 65  
Miltouia Blanti var. Lubber-  
siana, 365  
Mimulus luteus, 111; cupreus,  
235  
Mistletoe imported, culture in  
England, 532  
Myrsiphyllum asparagoides,  
337  
Mites on plants, 147  
Mixed beds, 81  
Morels and Jews' ears, 12  
Moth trap, 345  
Murray, portrait of Mr., 220  
Muscat Grapes spotted, 316  
Muscat Vines, unsatisfactory,  
399  
Mushrooms at Putney, 9; de-  
cayed, 12; in hot weather,  
16, 34; outdoor culture, 50;  
making ketenup, 55; spawn  
bricks, 100; in old beds, 156;  
beds out of doors, 294; bricks,  
spawning, 316; in a cucumber  
house, 357; in frames and out-  
doors, 548  
Myles' Memorial Fund, 366

**NANCY, A VISIT TO**, 107  
Nectarine, Early Rivers, 149,  
159; weights of, 178; eaten  
by ants, 316; quartering, 333  
Nepenthes, treatment of, 99  
Nephrolepis, 50  
Nerines, culture of, 212  
Newcastle Flower Show Fund,  
241; records of desire to, 236  
Newcastle Gardeners' Improve-  
ment Society, 179  
Newcastle-on-Tyne Horti-  
cultural Society, 522  
New Year's greeting, 533  
Nicotian affinis, hardiness of,  
111, 156, 291  
Nitrate of soda as a stimulant,  
345, 367  
Nitrogen free, Rothamsted  
experiments on fixation of,  
520  
Norwich, a visit to, 248  
Norwich, Dahlia Show, 235

**OAK, A NOBLE EVERGREEN**,  
307  
"Ockra," 147  
Oldfield nurseries, 495  
Olive on tree, 66; in Australia,  
517  
Onions at Banbury, 223; show-  
ing spring, 239, 264  
Opuntia, fr. ak in an, 155  
Orchards, Apple trees for, 258  
Orchid sale, 312  
Orchids—Disa grandiflora, Sac-  
colabium Bunnell, Cattleya  
Hardyana Hamar Bass  
variety and Cochlosa Noetz-  
mann, 63; no nomenclature at  
Kew, 197; Cattleya lablata  
vera, 233; choice, 307; two dis-  
tinct, 342; Grammatophyllum  
Measuresianum and Bulbo-  
phyllum ampullum, 342; at  
Tranby Croft, 385; sowing  
seeds of, 376; Cyrtopodium  
insigne Santea, 447; Orchids  
at Penllergare, 537; Dendro-  
bium Leeanum, 537; Calan-  
thes at The Hendre, 537  
Orchis maculata, 21  
Ormerod, Miss, and her work,  
267  
Orobis hirsutus, 251

**PACKING GRAPHS AND FLOW-**  
**ERS**, 13  
Paony Madame Emilie Galie, 18  
Palm house, piping and boiler  
for, 161  
Pancratium fragrans, 491  
Pansy Society, Midland Coun-  
ties, 8  
Papaver pilosum, 19  
Paris, flower trade of, 533  
Parsley, 252  
Pea, Canne's English Wonder,  
87  
Peaches and Nectarines for  
succession, 76; seasonable  
notes on, 83; lifting, 164;  
forcing, 273, 373, 544; earliest  
house, 411; earliest, 517  
Peaches on open standard trees,  
183; Waterloo, 135; cultural  
notes, 144; decaying, 163; in  
the open air, 322; Dymond,  
37  
Peach trees in pots, 90; leaves  
spotted, 100; unsatisfactory,  
277  
Pear Conference, 491  
Pears cracking and prevention,  
190; shoots dying, 235; fun-  
gus on, 251; Williams' Bon  
Chrétien, 277; marketing,  
230; Knight's Monarch, 307;  
Duchesse d'Angouleme, 307;  
Knight's Monarch and Mus-  
qué d'Automne, 324; fungus  
on and manures for, 376; the  
Hessle, 381; cracked, 411; the  
Sacke, 443; Gansel's Seckle,  
464; large, 512; Marchal de  
Cour, 535; Gansel's Bergamot,  
573  
Pearson, death of Mrs., 66  
Pear trees infested with scale,  
523  
Peas, notes on, 31; new var-  
ieties, 93; Sweet, 93; wither-  
ing, 100  
Pelargoniums in pots, 119;  
Zonal, 274; French and Fancy,  
314  
Pednell, death of Mr. Charles, 5  
Pettigrew, portrait of Mr. A.,  
137  
Picea nobilis, av. nana of, 563  
Pine Apples, cultural notes on,  
118; forcing, 273; heavy, 503  
Pines, forcing, 334, 336; manage-  
ment of, 462  
Pinks and Peas at Chiswick, 65  
Pinks, Japanese, 516  
Pinks, propagating, 31; at  
Handsworth, 130  
Pink Society, the National  
(Northern Section), 93; Show  
at Manchester, 63; at Wol-  
verhampton, 70  
Pink, the Rector, 18; Mrs.  
Slankins, 83  
Pinus insignis, 60; P. ponderosa  
307; P. pyrenaica, 347, 357  
Planting, the Apple sup-  
ply, 519



## PLANTS CERTIFICATED—

Abies Oerika, 235; Allamanda Williamsi, 68; Asparagus retrofractus aboreus, 310; Aspidiums, 255; Asplenium, 225; Aster grandiflorus, 408; Athyrium, 225 — Begonia (tuberous) Mrs. Faulkner, 18 — Caladium M. Lyon Say, 184; Louis Van Houtte, 184. Calanthe vericolor, 514. Carnations, Edith M. Wynne, Madeline, 184; Mrs. Walford, 184; Lizzie McGowan, 310; Queen of Bediers, 131; La Neige, 182; Ruby, 131; C. R. Humbert, 181; Victory, 134; Mrs. Robert Sydenham, 131; New at Manchester, 152; Dr. Hogg, Niphetos, Lady Gwendolen, 67. Catasium fimbriatum, 225. Cattleya Behrensiana, 181; Gaskelliana var. speciosa, 181; granulosa var. difformis, 225; Hardyana Hamar Bass variety, 68; intermedia alba, 271. Centaurea Cyanus nana compacta, 18. Chiswick, plants certificated at, 133. Chrysanthemums, Miss Watson, 310; Madame Edouard Lefort, 310; M. R. Bahuant, 348, 373; Bouquet de Dame, 349; Mrs. E. Beckett, 350; Edwin Beckett, 351; Louis Boehmer, Miss Nisbet, William Wells, 373; Vivand Morel, 373; Miss Bella Wilson, Holborn Rose, Col. W. B. Smith, 408; new varieties, 419, 513, 542, 565; Mrs. H. Simkins, E. G. Hill, Henry Perkins, Kivelyn, J. S. Fogg, T. Selwood, Lizzie Cartledge, 514. Cochlosia Noeltiana, 68. Croton, Golden Ring, 225. Cuphea Llave, 271. Cnrepssus arizonica, 182; Cymbidium pulcherrimum, 504. Cyrtopodiums, Antigone, 271; Cornigianum, 184; insigne Sander, 408; Lecanum giganteum 504; Lowianum, 182; macrochilum, 184; Mascreehanum, 503; Pitoberianum, Williams' var. 373; radiosum, 373. — Dahlias, J. Walker (Show), Mrs. McIntosh (Show), J. Rawlins (Show), Mrs. Lewis Standbridge (Show), A. Ocock (Show), T. W. Girdlestone (single), Miss Glasscock (single), St. Catherine (Cactus), Baron Schröder (Cactus), Kynrith (Cactus), Swanley (Cactus) Robert Cannell (Cactus), Delicata (Cactus), 182; Arthur Rawlings (Show), William Powell (Show), Mrs. Keith (decorative), Claxton's Harlequin (decorative), 225; Mrs. Ocock (fancy), Dr. Antsman (Show), Mr. W. Besant (Pompon), Nellie Mackray (Pompon), Toadstone (fancy), Ada Rehan (Show), 271; Dahlia Lorna Doone (Pompon), Sultana (Cactus), Rayon d'Or (Cactus), Little Sarah (Pompon), 271; Ernest Cannell (Cactus), Mrs. Thornton (Cactus), Sir Roger (Cactus), 271; Princess Christian (decorative) 310. Davallia assamica, 225. Delphiniums Robin Adair, 18; Zali, 69. Dendrobium, Lecanum, 493; O'Brienium, 373; Statterianum, 134. — Elaeagnus pungens maculatus, 271. Escalonia exoniensis, 18. — Gerbera Jamesoni, 408. Gladiolus Thalia, J. O'Brien, Bias, 182; G. Meredith, Lady Brooke, W. S. Gilbert, Sir A. Sullivan, Sheila, 225. Godetia White Pearl, 18. — Hypericum Moserianum, 182. — Ixora Duffii, 310. — Læia elegans blenheimensis, 182; Perrini alba, 310. Lilium maritimum, 18. — Miltonia Bionti var. Labbersiana, 225.

## PLANTS CERTIFICATED—con-

tinued  
Mimulus cupreus, Prince Bismarck, 18. Mormodes bincinator var. aurea, 225. — Pæony Madame Emile Ga'le, 18. Peas (Sweet), 69. Pe argoniums (Ivy leaf), Beauty of Castle Hill, 69. Phaius maculato-grandifolius, 408. Pink, The Rector, 18. Plants, new, at Chiswick, 133. Prunella Webbiana, 18. Pteris serrulata pendula, 69. — Rhododendron Ceres, 271. Rhopla oblate hexandra, 408. Richardia æthiopica compacta, 373. Rose Charles Gater, 134. Rubbeckia californica, 69. — Schomburgkia Sanderiana, 503. Scelopendrium, 225. Sobralia leucoxantha, 182. Spirea Bumalda var. Beauty of Knap Hill, 69. Stapelia gigantea, 417. — Vriesia cardinalis 514. — Zamia integrifolia, 503. Zygopetalum grandiflorum, 182.  
Plants, notes on border, 173; potting, 331; forcing, 433; stove and greenhouse for exhibition, 455; for tables, 465; in pots, feeding, 534. Pleasure grounds, seasonable work in, 161.  
Plums, trees cankered, 316; fruits dried at Chiswick, 308; choice dessert, 342; culture, successful, 430.  
Plum trees gumming, 254. Polyporus fraxineus, 330. Popples, Japanese, 265. Portsmouth Agricultural Show 65.  
Portsmouth Show, 28.  
Potash for plants, 550.  
Potato, Magnum Bonum, origin of the, 61; disease, 64, 178; lifting, and crops for succeeding, 119; disease and remedies, interesting experiments, 193; sulphate of copper for, 237; disease, 244; notes on, 323; disease, experiments at Reading, 340; the Bruce, 367; disease experiments, 390, 409; Messrs. Daniels', 392; disease, sulphate of copper and, 424; experiments with, 518; disease experiments, 553; for planting an acre, 572.  
Pregny, near Geneva, view in garden, 455.  
Prescot Show, 74.  
Preserving flowers, 516.  
Preston and Fulwood Horticultural Society, 251.  
Primula imperialis, 3, 21.  
Priority, Hornsey, 93.  
Prunella Webbiana, 18.  
Prunes in the South of France, 89, 139.  
Pruning, the principles of, 238, 299; Currants, 525.  
Pyrethrum, dividing in autumn, 12.

## QUAINT GARDEN, A, 299

Queen and horticulture, 538

## RABBITS, PROTECTING FRUIT

TREES FROM, 579.  
Ragley Gardens, 199.  
Rains, heavy in London, 179.  
Rainfall during August, 245; in Hampshire, 346; records in October, 287, 409; returns, 513.  
Ranunculuses, Persian, 33.  
Reading, a call at, 38; Gloxinias at, 153; notes at, 242.  
Rhododendrons, 312; Championæ, 555.  
Rhubarb, forcing, 462.  
Rhus vernicifera, 431.  
Richardia compacta, 373.

Richmond (Surrey) Show, 6.  
Rivers, Mr. T. F., at home, 49.  
Roby Hall, notes at, 337.  
Rockery plants, 212.  
Rozers, death of Mr. Fletcher, 539.  
Root crops, protecting, 397.  
Root-pruning, 353.  
Roses—show dates, Tea Rose at Westminster, large growers and small classes, Grimson China, Persian Yellow, Captain Christy, 8; National Society's schedule, 62; poetry of the Queen of Flowers, 92; in America, 92; on walks, Lamarque, 115; repotting, 121; Madame Cusin, Souvenir de la Malmaison, 40; on own roots, growers, and classes, 41; notes on National Show, 42; Charles Gater, 134; large and small Rose growers, a due weeping Rose, 11; large and small growers, 182; Teas for forcing, 190; in pots, 212; large growers in small classes, a visit to Colchester, 241; large v. small growers, 239; prairie, 296; analysis, 1856-1890, 319; Mr. Prince at Longworth, 351; the season of 1891, 371; Tea Rose, the Queen, 372; new Hybrid Perpetuas, 391; best Tea varieties, 404; judging, 427, stray notes, 443; good varieties, for general cultivation, 479; National Society's annual meeting and report, 500, 521; Madame de Watteville, 519.  
Rose Shows—Maidstone, Canterbury, and Brockham, 26; Croydon, 27; Brighton and Norwich, 29; National, 22; Gloucester and Diss, 51; Hitchin and Woodbridge, 52, 62; Reigate, 53; Eltham, Hereford (National), 70; North Lonsdale, Manchester, 72; Christleton, 92; Crystal Palace, 227; Reading, 230; Bath, 231; Wakeley, 232; Edinburgh, 245; National Dahlia, 225.  
Royal Caledonian Society, fixtures for 1892, 517.  
Rudbeckias, 270.

## SACCOLABIUM BLUMEI FROM

HATFIELD, 68.  
Salad and salad dressing, 475.  
Salading for winter, 498.  
Salisbury Show, 168.  
Salsia, 253.  
Sandy Show, 208.  
Sarracenia purpurea, 524.  
Saxifraga pyramidalis, 2.  
Scent-yielding plants, 246.  
Schomburgkia Sanderiana, 503.  
Schröder, Baron, and German Emperor, 44.  
Sciadopitys cone, 308.  
Scilla siberica, 360.  
Scotland, Grapes in, 59.  
Scottish Pansy Society, 5.  
Scottish Primula and Auricula Society, 516.  
Screen for flower garden, 398.  
Seakale, forcing, 462.  
Selaginella Kraussiana, 274.  
Senecio elegans, 269; pulcher, 550.  
Sewage, London, 201.  
Sheffield Show, 164.  
Shelter for fruit trees, 361.  
Shirley Hibberd memorial, 532.  
Show, a gigantic vegetable and flower, 160.  
Shrewsbury Show, 155, 182.  
Shrubs, forcing, 423.  
Silene alpestris, 175.  
Sirex gigas, 277.  
Skeletonising leaves, 336.  
Slough, Carnations at, 136.  
Snowdrop, notes on the, 380.  
Sobralia leucoxantha, 182.  
Softsoap and sulphur as insecticides and fungicides, 2.

Solanum capsicastrum Wetherall, 532.  
Soil, water, making, 122.  
South Wales, a run to, 154.  
Spinach, winter, 119, 253.  
Spruce callosa, 517.  
Spring bedding, 379.  
Stachys tuberifera, 497.  
Standard trained fruit trees, 510.  
Stanton-in-Peak, 333.  
Stenactis speciosa, 111.  
Stewart, Mr., portrait of, 224.  
Stocks (Intermediate) for spring, 235.  
Stove plant, 334.  
Strawberry, seasons, records of, 3; scarcity of early, 6; layering, 10; varieties of, 12; The Countess and John Ruskin, 29; Scarlet Queen, 22; Carolina superba, 31; Noble, 43; for wet weather, 82; attacked by beetles, 26; new varieties of, 93; planting, 96; enriching soil for, 109; packing, 101; Bothwell Bank and Dr. Livingston, 63; Sultan, 78; crop in Hants, 87; Trolope's Victoria, 88, 135, 136; beetles and Scientific Committee, 111; from Swanley Station, 172; gathering for market, 181; Mr. Harrison's Manual, 201; in Hampshire, 265; in pots, 314, 443, 432; in Scotland, 423; in pots, 518.  
Street Show, 208.  
Streptocarpus culture, 255; S. Galpin, 338.  
Sugar Cane from seeds, 408.  
Su phate of copper for Potato disease, 237, 424.  
Summer flower gardening, 31.  
Sunflowers, miniature, 305.  
Sunninghill Vinery, Derby, 292.  
Superphosphate of lime from bones, 100.  
Sutton, marriage of Mr. L. G., 327.  
Swanley, fruit and flowers at, 221.  
Sweet Peas, new, 45; at Chiswick, awards for, 133; for cutting, 157.  
Sweet Williams and the late Mr. Hastie, 470.  
Switzerland, holiday notes in, 445, 455.

TABLE PLANTS, 556.  
Taunton Deane Show, 162.  
Technical education in Essex, 367.  
Telekia speciosissima, 156.  
Thames Ditton Show, 96.  
Thomas, presentation to Mr. Owen, 478.  
Thulia gigantea at Llinton, 309.  
Thrips on plants, 100; yellow, on Grapes, 163.  
Thuiopsis dolabrata, 313.  
Tobacco as an insecticide, 2.  
Tomato culture, successful, subduing disease, 21; not setting, 57; fruit disease, 56, 74; productive, 66, 84; diseased, cause and remedies, 122, 190; for winter, 188; good in firm soil, 218; yellow, 254; at Normanton Park, 323; out of doors, 495, 498; house, heating a, 442; Evesham Early, 287; under glass and outside, 291; culture of the, 544; note on, 549.  
Tourists' guides, 66.  
Trees and shrubs, flowering, 343; for a chalk bank, 357.  
Trees at Richmond Terrace, 387.  
Trentham Show, 72.  
Tropæolum Mrs. Chlhran, 87; a new, 215.  
Tuberoses, culture of, 126; not on, 559.  
Tulips, 323.

VAN VOLXEM, DEATH OF, 234.  
Vapourer moth, 191, 204.  
Vegetables, watery, winter a poly, 194; at Highclere, 303, 327, 344; and fruit for market, 421; preserving roots of, 509; prizes for, 562.  
Veitch Memorial medals, 539.  
Verbenas, select, 63; propagating, 145.  
Viournum, 206.  
Vineries, cleared of Grapes, 419.  
Vines, early, 10; warts on leaves, 34; at Amphyll House, 88; in July, 97; finest in Britain, 110, 173; cultural notes on, 144; unsatisfactory, 169; Mr. Tranter's paper on, 175; seasonable note, 187; Manresa, 229; miller on, Mr. Molyneux's Manual, 235; rods of, 276; forcing, 314, 418; early force, 293, 351; Muscat, unsatisfactory, 399; not ripening their foliage, 413; leaves scorched, 293; tabulated experiments in destroying fungus on, 474; early and late, 481; larching, 486; methods of pruning, 489; forcing, 521; pruning, 520, 528; infested with mealy bug, 550; forcing, 570; pruning, 559.  
Vintage prospects, 265.  
Violas and bedding Pansies, 205.  
Violas, notes on new 103; in the south, 172; Ardwell Gem, 200, new, 355; propagating, 313; Violas, 405.  
Violet culture, successful, 87; for frames, 284; scarcity of, 517, 559.  
Virginian Creepers, 445.  
Vitis heterophylla, 235.

WADDON HOUSE GARDENS, 136.  
Wakedeld Paxton Society's window garden show, 179.  
Walnuts in Kent, 225; American, 399.  
Wall coping, 376.  
Wall trees, barren, 553.  
Walnut trees not bearing, 356.  
Waltham Abbey Show, 96.  
Wanderings, 62.  
Warwick, Orchids and Chrysanthemums at King's School, 496.  
Wasps, destroying, 201.  
Water, the use and abuse of, 395, 311, 341.  
Weather, notes on, 230, 387; in Notts and Yorkshire, 493.  
Williams, death of Mr. James, 561.  
Winchester Rose Show, 9.  
Wines, home-made, and preserves, 69.  
Winters (twenty-one) in London, 431.  
Wistaria sinensis, 424, seedling, 493.  
Wolverhampton Show, 7.  
Woodbridge Horticultural Society, 453.  
Woodcock, Mr. W. K., 85.  
Woodlice, destroying, 13.  
Wood-ripening and root-pruning, 237.  
Woolton Show and conversation, 312.

YORK, DEATH OF THE LORD MAYOR (Alderman Matthews) 222.  
York florists' annual dinner, 549.  
York Gala, results of, 134.  
Yorkshire Horticultural Society, 178.  
Young, Mr., portrait of, 224.

ZYGOPETALUM GRANDIFLORUM, 182

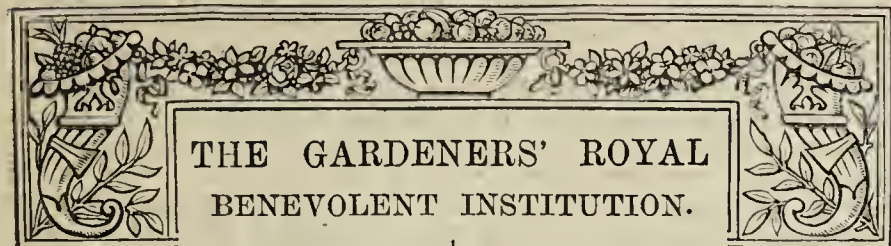




## WOODCUTS.

	PAGE		PAGE		PAGE
Abies Alcoquiana, cones .. .. .	301	Fenn, portrait of Mr. R. .. .. .	47	Portraits ( <i>continued</i> )—	
„ firma .. .. .	305	Foxglove, a peculiar .. .. .	121	„ Mr. M. Dunn .. .. .	225
„ Veitchi .. .. .	303	Geneva, a garden at .. .. .	455	„ M. Jean Everaerts .. .. .	113
Allamanda Williamsi .. .. .	91	Gerbera Jamesoni .. .. .	63	„ Mr. R. W. Fairgrieve .. .. .	217
American Cowslips .. .. .	477	Gooseberry, cordons and fence .. .. .	410, 411	„ Mr. J. Hunter .. .. .	222
Anthuriums, new .. .. .	7	Grammatophyllum Measuresianum .. .. .	342	„ Mr. A. Kirk .. .. .	223
Apple Benoni .. .. .	239	Griffinia hyacinthina .. .. .	433	„ Mr. D. Lindsay .. .. .	266
Arisæma Wrayi .. .. .	425	Heating, plan for calculating .. .. .	79	„ Mr. J. Love .. .. .	235
Aristolochia gigas .. .. .	369	House, forcing .. .. .	506	„ Mr. T. Lunt .. .. .	247
Asparagus retrofractus var. arboreus .. .. .	523	Hypericum Moserianum .. .. .	293	„ Mr. J. W. Machattie .. .. .	246
Auriculas, protection for .. .. .	881	Iris fimbriata .. .. .	185	„ Mr. J. McIndoe .. .. .	221
Baptisia exaltata .. .. .	95	„ Robinsoniana .. .. .	19	„ Mr. McKelvie .. .. .	219
Bulbophyllum amplum .. .. .	343	Juniperus sphaerica .. .. .	311	„ Mr. G. Mackinnon .. .. .	247
Chrysanthemum cup and tube .. .. .	407	Lankesteria Barteri .. .. .	550	„ Mr. A. A. McLeod .. .. .	225
„ M. R. Bahuant .. .. .	349	Lilies of the Valley, forcing .. .. .	469	„ Mr. E. Mawley .. .. .	69
„ Robert Owen .. .. .	541	Lilium concolor .. .. .	131	„ Mr. W. Murray .. .. .	220
„ Mrs. Simpkins .. .. .	515	„ Washingtonianum .. .. .	105	„ Mr. A. Pettigrew .. .. .	137
„ Vivian Morel .. .. .	519	Linaria vulgaris var. Peloria .. .. .	168	„ Mr. C. Steward .. .. .	224
Codonopsis clematidea .. .. .	141	Lindelofia spectabilis .. .. .	175	„ Mr. W. K. Woodcock .. .. .	85
Crinum Kirki .. .. .	205	Lycaste costata .. .. .	197	„ Mr. W. Young .. .. .	224
„ purpurascens .. .. .	203	Manresa Vinc. .. .. .	229	Pregny, view in the garden at .. .. .	455
Cuphea Llavæ .. .. .	333	Mawley, portrait of Mr. E. .. .. .	69	Primula imperialis .. .. .	3
Cupressus funckii .. .. .	311	Microcachrys tetragona .. .. .	572	Rhododendron Championæ .. .. .	555
Cypripedium Alfred .. .. .	153	Miltonia Blunti var. Lubbersiana .. .. .	365	Rivers, Mr. T. Francis, at home .. .. .	499
„ Antigone .. .. .	262	Mushroom bed at Putney .. .. .	9	Rockery in M. Everaert's garden .. .. .	112
„ Calypso .. .. .	559	Nectarine, Early Rivers .. .. .	159	Rose Gustave Piganeau .. .. .	25
„ insigne Sanderae .. .. .	447	Nierembergia rivularis .. .. .	377	„ Madame Cusin .. .. .	41
„ Pollettianum .. .. .	263	Orobanchis hirsuta .. .. .	251	Schomburghkia Sandcrana .. .. .	503
„ Youngianum .. .. .	405	Pear, Conference .. .. .	491	Sciadopitys verticillata .. .. .	308
Damson Bradley's King .. .. .	329	Pettigrew, portrait of Mr. A. .. .. .	137	Seed pan, improved .. .. .	481
Dendrobium Phalanopsis var. Schröderianum .. .. .	325	Picea nobilis glauca at Madresfield Court .. .. .	563	Strawberries, gathering at Swanley .. .. .	181
„ Leeanum .. .. .	537	Pinus ponderosa .. .. .	307	Strawberry, Laxton's Scarlet Queen .. .. .	22
Desmodium penduliflorum .. .. .	450	Portraits, Mr. T. Boyd .. .. .	267	Streptocarpus Galpini .. .. .	389
Dodecatheons .. .. .	477	„ Mr. R. P. Brotherston .. .. .	266	Thuia gigantea at Linton .. .. .	309
Eremurus himalaicus .. .. .	289	„ Mr. J. Brown .. .. .	267	Thuiopsis dolabrata .. .. .	313
Everaerts, portrait of M. Jean .. .. .	113	„ Mr. J. Day .. .. .	246	Tomato disease .. .. .	57





AS we briefly reminded our readers last week, the fifty-second anniversary festival dinner of this admirable institution will take place on Wednesday evening, July 8th, in the Whitehall Rooms of the Hotel Métropole, and we trust there will be a great gathering of friends of the charity on the occasion. The fame of the Chairman, the Right Hon. Joseph Chamberlain, as an orator is of world-wide repute, and he will have a theme with which he will be in full sympathy and worthy of his most powerful advocacy. Mr. Chamberlain takes great delight in his fine and well-equipped garden, and is held in the highest esteem by those employed in it. His desire to benefit the industrial classes and do all he can towards formulating means by which they may receive support in the decline of life is well known, and it may be expected that the speech he will deliver at the meeting in question will be one of considerable importance.

All prominent statesmen have a great number of devoted adherents and about a corresponding number of uncompromising opponents. But this is only politically, and probably there is no leading parliamentarian who is not proud of the number of his enemies, as these indicate the measure of his influence and his power. In these days a public man, whether he is a politician or not, who in his official capacity is never opposed, is soon regarded by the outside world as a mediocrity, and the flattery of which he is the victim is apt to be characterised as a system of "bolstering." But happily in the conflict of opinion on questions of policy true personal respect exists between the opposing exponents, and each admires the abilities and character of the other. Great men in their contests on public questions teach smaller men a wholesome lesson. The former welcome full and fair criticism, and have a profound respect for honest assailants; the latter repel it, and are unfortunately somewhat wont to regard it as a personal attack. Fortunately opportunities arise for men of differing views on public matters meeting on a common platform as true and trusted friends engaged in the furtherance of a common object which all admit to be good, and then they receive as they deserve a great ovation.

Mr. Chamberlain, in advocating the claims of the Gardeners' Royal Benevolent Institution for the support of all who can give it, will assuredly find his efforts fully recognised and his endeavours warmly applauded. All who will meet him at the festive board next week will be his friends, because they are in sympathy with the object with which he by his presence proclaims his sympathy—namely, making provision for aged gardeners and widows of gardeners whose latter days would without the help of friends be days of privation and practical destitution. That this privation ought not to be experienced is a sentiment with which all lovers of gardens, and all who believe that those who labour in them are worthily engaged, will be in absolute unison; of that there can be no doubt whatever.

Than the Gardeners' Royal Benevolent Institution there is no organisation that has done, is doing, and will do more good in a large and important section of the community, nor is there one more firmly established or more carefully and judiciously managed. That it was staggered momentarily by the sudden death of the late Secretary, Mr. E. R. Cutler, who for upwards of fifty years laboured on its behalf with extraordinary zeal and great success, was

only natural; and because of this loss it is necessary that special efforts be made to, as far as possible, counteract its effect. It must be the wish of all to give encouragement and help to the recently appointed Secretary, Mr. G. J. Ingram, a gentleman who, we may be sure, possesses the requisite qualifications for the discharge of the duties which after much deliberation he was elected to perform. He is fortunate in what we may term his public inauguration, in the Institution having as Chairman of the first dinner since his (the Secretary's) appointment, a statesman so distinguished and eloquent as Mr. Chamberlain, who, it will be remembered, was unable to attend on a former occasion through illness. It is our strong hope that the gathering will be large, influential, and successful, and we know that many persons are looking forward to the privilege of hearing a speech that they anticipate will be memorable.

As an example of the power of Mr. Chamberlain as a speaker we may appropriately relate an episode that has not hitherto been published, and which at least one reader of these lines will know to be true. The right hon. gentleman was once upon a time delivering a series of speeches for which the country was waiting. A few days subsequently we happened to visit the town in which the demonstrations had been held, and on asking one of the best gardeners in the district if he had been to hear Mr. Chamberlain received this reply, "Yes, I went to one of his meetings, but only one, and do not think I shall go to another." "Why, was not the speech good enough?" was our rejoinder, and this was the answer we received. "The speech was certainly wonderful. I never heard such a fluent, persuasive speaker; he carried all before him but me, and the fact is I do not think I dare attend another of Mr. Chamberlain's meetings through the fear he might convert me to his views!"

The right honourable gentleman probably never had a greater compliment paid him than that, and he will not regret the fact that the gardener's fears of being converted have left him. The once fearsome listener would be glad to undertake a very long journey to hear Mr. Chamberlain now, and we shall be very glad if it is convenient for him to do so next week.

We trust the Chairman of the meeting of the 8th ult. will be the means of converting many who have not hitherto been supporters of the Gardeners' Royal Benevolent Institution, and at the same time stimulate some of those who are enrolled in the noble army of helpers to renewed efforts on its behalf, for infirm and aged gardeners and widows are wearily waiting and anxiously longing to become participants in the benefits it is established to bestow.

How great these benefits have been in the past, and how they have steadily increased from small beginnings, were concisely stated by Mr. N. N. Sherwood at the election dinner in January of the present year. He reminded his hearers that "the Institution was established in 1839, and in 1840 they had only one pensioner, in 1841 two pensioners, in 1842 four pensioners; in 1850 they paid away £492 in pensions, and they had £2250 invested. In 1860 they paid away £723, and had £5100 invested. In 1870 they paid away £787, and had £7800 invested. In 1880 they paid away £1074, and they had £12,000 in stock. In 1889 the sum paid away was £2345, and they had £23,000 in stock; and in 1890 the sum of £2648 was paid away, and they had £25,000 in stock. In 1891 the pensioners numbered 156. The oldest pensioner was upwards of 103 years of age, and had subscribed £18 18s., while during the thirty-one years that he had been a recipient of the charity he had received £510. The number of pensioners who had been on the Society's books up to the present date was 559, and the amount of money paid, including expenses, was £56,288." Well might that statement be received with cheers, and we shall hope to hear something of a very cheering nature at the gathering of gardeners' friends at the fifty-second anniversary dinner of this splendid charity on Wednesday evening next.



## SOFTSOAP, SULPHUR, TOBACCO AS FUNGICIDES AND INSECTICIDES.

WINTER dressing Vines and fruit trees generally grown under glass or trained to walls with an approved composition for the prevention and destruction of insect pests was formerly a garden practice held in high repute. The mixture varied in its components, but there was a remarkable unanimity as regards the principal ingredients. These were (and still are) found to have considerable value as fungicides and insecticides, and were used in about equal proportions, of which the following is a fairly representative formula:—Softsoap, 1 lb.; flowers of sulphur (some preferred black or sulphur vivum), 1 lb.; snuff (Scotch, best), 1 lb. Dissolve the softsoap in a gallon of boiling water, while hot add the snuff, then the sulphur, forming a pasty wash, and to this add enough clay to form an adhesive cream. Some preferred the strongest shag tobacco to snuff. In that case the tobacco (1 lb.) was placed in a vessel, and a gallon of boiling water poured over it, covering the vessel with a sack; the mixture was allowed to stand until cold, then strained through a coarse cloth. The softsoap and sulphur were added to the tobacco water, well mixed, and clay added to give it the consistency of cream. The mixture was applied with a stiff brush, the Vines and trees having been pruned, stripped of loose bark, and otherwise freed of matter likely to interfere with the application of the compound. It was brushed well into every hole, crack, angle, and crevice, the whole Vine or fruit tree thoroughly coated with the sticky material, care being taken not to injure the buds. That the pigment killed the insects was held to be proven, inasmuch as Vines or trees not dressed with it swarmed with insects and mildew the ensuing season, whilst those dressed were comparatively clean.

Some growers were not content to use softsoap, sulphur, snuff, or tobacco water, but added lime, and to take off its glaring whiteness added soot, forming these into a wash with water, and the whole into an adhesive cream by the addition of a due proportion of clay. Others went further and used gas liquor along with some or the whole of the foregoing ingredients, and a few waxed bold enough to add gas tar or petroleum for the destruction of mealy bug. The ambition was to invent a compound strong enough to kill the whole race of parasitical fungi and insects. Alas! some Vines to which the "improved" mixture were applied pushed their buds tardily and irregularly the following year, others not starting, and those breaking were puny in shoot and leaf, with bunches showing prominently in the points of the shoots when 2 or 3 inches long. These instead of developing for the most part shrivelled and collapsed, the growth altogether very weak, and the prospect poor. The rods became hard and dry. The oleaginous and tarry substances employed in the mixture used as winter dressing had done their work. They had been absorbed, the cells of the bark and underlying tissues had been hardened and contracted, and the flow of sap obstructed. Whilst they were dressed with the softsoap, sulphur, tobacco, and clay all went well with the Vines. The stems thickened, the foliage was abundant and good, the Grapes plentiful and excellent. Why, then, ignore the fact that an injudicious use of substances for the prevention and destruction of insect pests had proved injurious? There was only one remedy—cutting away the old rods of Vines and taking up new. They were cut below where the "stuff" had been applied to the rods and splendid young canes followed. How many Vines have been replenished with fresh, free-bearing, healthy rods in the manner indicated?

The case is not very different as regards other fruit trees. The Fig is notorious for red spider and scale, the Peach and Nectarine being similarly attacked. This occasions the use of preventive and remedial measures. Formerly the pigment before alluded to was exclusively employed, and did not induce hardening of the bark and underlying tissues, but caused the trunks and limbs of the trees to thicken and to have clean healthy bark. The clay absorbed the oil of the softsoap and prevented its soaking into and contracting the tissues of the bark and alburnum, whilst insects were destroyed. Injury is often done by the application of substances which, acting and reacting on each other, set the oil and tarry matter free to soak into the bark, destroying its cells, and the vascular or alburnous tissues beneath. The mixture used by old gardeners did not injure the bark, but improved it, as in claying over grafts and wounds, and it remained until the trees were well furnished with leaves, when it cracked and fell away, leaving the stems and branches clear and healthy.

But the daubing of trunks and branches took up much time, and many persons discarded the clay. I should like to know with what advantage. Softsoap then became the specific, and has even been used at a strength of 1 lb. to a gallon of water. What wonder that Vines, Peach, and other trees thus dressed ceased to enlarge in their stems, and failed to produce profitable crops

of fruit. Lathering Vines or fruit trees with crude softsoap will ruin them sooner or later, but when used in the mixture above mentioned it is safe. I have seen two vineries out of three rendered profitless through this rough and ready method of dressing the Vines with softsoap. I have seen young Vines ruined before they were seven years old by the too lavish use of softsoap. Even "authorities" have recommended a solution of softsoap, 1 lb. to a gallon of water. A lather thus formed may not injure trees with thick bark, but what if it be applied to young trees? Some are more cautious, yet recommend softsoap, 8 ozs. to a gallon of water. That may not injure trees if the weather be wet, but what is the result of its application to growth of one, two, or three years old under glass? A 2-ounce solution will kill aphides, red spider, and thrips. Why, then, use more? True, twice the strength has not done harm to hard ripe wood in winter; but the fact to remember is this—softsoap in strong solution is not safe.

It is a compound of whale oil and potash, and prepared also from linseed oil, tallow, and residuum of various kinds, but the 'cute American is generally careful to prescribe "whale oil soap." Of course, all disasters from its over use are attributed to the badness of the soap. That does not mend matters. The potash causes the soap to be soft. Add soda lye, or saponify the whale oil therewith, and it is hard soap. Potash is softening, soda hardening. That must be taken as regards the effect of potash and soda on trees. Potash collects moisture, keeps the softsoap acting on the insect. Soda dries and crystallises, hence the use of a combined potash and soda wash. Oils and fats are bad absorbents of water, and have acid reaction, hence they prevent the parts of trees to which they are applied benefiting by the moisture of the air, rain, or syringing, and, when dried, close the pores. Thus softsoap acts on insects by the oil adhering to their bodies whilst the action of the potash kills them. On mildews the potash burns up the mycelial threads, and the acid reaction of the oil shrivels up the remains. Mr. Bardney long ago pointed to the efficacy of softsoap in weak solution as an antidote for mildew on Roses under glass. It has been used from time immemorial as an insecticide, while as a cleansing agent it is admirable alike for woodwork and fruit trees that have been infested with insects. A thorough washing by means of a brush reaching well into every hole, crevice, and angle of the bark with a solution of softsoap, 2 ounces to the gallon of water, at a temperature of 90 to 100°, is safe and efficacious for the destruction of red spider, thrips, and aphides. If the whole house, Vines and other fruit trees included, were syringed with water at a temperature of 140 to 160° it would soften the dirt on the woodwork and accumulations of various matters on the glass and trees, whilst making quick destruction of any insects it reached. This should be done so soon as the leaves have fallen, before the pests have found snug hybernating quarters. Then thoroughly cleanse the house, the trees after pruning, and removing the loose bark or rough portions, wash with the soapy water as already advised, whitewash the walls, remove the loose surface soil, and apply a top-dressing of rich material. Objection may be taken to the 2 ounces solution of softsoap not killing eggs. My reply is, kill the adults in autumn or early winter and they will never lay eggs. The Peach or brown aphid lives through the winter on any juicy shoot it can find, therefore let the application of the soap solution be thorough.

The 2-ounces solution cleanses all foliage infested with aphides, red spider, and thrips. It may be syringed on the parts infested, the whole thoroughly wetted; but it cannot always be used in that way on account of its spotting the Grapes, yet it is easy applied with a sponge, and if care is taken to begin soon enough and persist in its use there is no doubt as regards the issue. Any plants infested may be syringed or have the leaves sponged. It, however, is not always safe to use this weak (2 ounces) solution on plants with hairy leaves. These are more susceptible of injury than those with smooth, and these matters must be considered by those using soapy solutions, bearing in mind that they are first caustic and afterwards acid. Stronger solutions are not recommended, except for special purposes, and they must be used upon the object specialised in strict accordance with the instructions.—G. ABBEY.

(To be continued.)

## THE PYRAMIDAL SAXIFRAGE.

FEW plants are more hardy, more easy to cultivate, and more graceful, than "*Saxifraga Cotyledon*," or, as it is better known in gardens in a stronger form, as *S. pyramidalis*. Although a perfect gem, it is certainly not grown to the extent it deserves. The probable reason of this neglect is that it does not flower until its third year, and in the interval escapes the very little attention necessary to grow it to the mature condition. Yet the provision necessary is so



trifling that half an hour's labour for two years in succession will secure a large number of perfect flowering plants. Doubtless any open well-drained soil exposed to the sun will suit it admirably. I have grown my plants for a number of years in a small bed, made under a brick wall, on the surface of a gravel path, no deeper than a brick on edge, the soil being very fine sandy gravel, obtained from the bottom of a running stream. This has been enriched by occasional sprinklings of artificial manure. Now is the season for planting. The offsets for the purpose may be obtained in almost an unlimited quantity from the flowering plants, or from those a year old. These I plant 6 inches apart, and settle the soil about them with a good watering. If the season be very dry they may require watering from time to time. In the following year, about this time, I take up all these young plants, and after removing the offsets replant them about 12 inches apart. They remain then until the following year, when all of them will send up grand flower spikes, and are ready for transplantation into any part of the garden, as may be required for effect, or into pots for house or conservatory decoration. It is as well to have them in the original bed until the flowers begin to open.—EDMUND TONKS.

### RECORD OF STRAWBERRY SEASONS.

As a comparison may be useful I give the following table, which may be read along with the one given by Mr. Sharpe on page 505.

#### DATE OF FIRST AND LAST STRAWBERRIES GATHERED.

1881.—	Record lost.	
1882.—	3 lbs., June 11th to July 27th	= 37 days.
1883.—	2 lbs., June 25th to August 15th	= 51 days.
1884.—	3 lbs., June 25th to August 14th	= 50 days.
1885.—	2 lbs., June 25th to August 10th	= 46 days.
1886.—	6 lbs., July 5th to August 29th	= 55 days.
1887.—	5 lbs., June 25th to July 30th	= 35 days.
1888.—	1 lb., July 1st to Sept. 1st	= 63 days.
1889.—	1 lb., June 15th to August 4th	= 50 days.
1890.—	1 lb., June 9th to August 1st	= 53 days.
1891.—	(1)	

Average period 48.8

During 1889 and 1890 Noble was grown and ripened a few days earlier than Vicomtesse H. de Thury, the variety previously the first to be gathered. It will be seen that 1886 and 1888 were late seasons, with a prolonged crop, this being attributed to the incessant rains in July and August of both years. On the other hand, the Jubilee year of 1887 was the shortest, although about the average in date of first gathering. The present year is one of the latest owing to the severe frosts of Whitsuntide which destroyed fully a fortnight's crop of berries.—F. LOVEL, F.R.Met.Soc., Driffield.

### PRIMULA IMPERIALIS.

At the last meeting of the Royal Horticultural Society at Westminster, specimens of the above named interesting Primula were exhibited, and we this week call again the attention of our readers to the plant by means of the woodcut (fig. 1) and a fuller note. The plant seems to be the same as that referred to by Mr. Dewar in this Journal a few years ago, when his careful and exhaustive review of the genus Primula was published. He described it under the name of *P. prolifera* as follows:—

"As yet this is a novelty, having been introduced only two or three years ago, along with other seeds sent from the Sikkim Himalayas by Mr. Elwes, and raised by the late Mr. I. A. Henry of Edinburgh. The first batch of plants from the home-grown seed has come into the hands of the Messrs. Veitch, a number of which we saw planted out in their nursery at Coombe Wood last year (1885). The plants were small and apparently suffering from being too far south, as those at Edinburgh from the same seed were as large again and flowering most profusely. It will no doubt be much sought after when plants become more rife, and we hope to see it play a prominent part in the hands of the hybridiser. It belongs to the whorled-flowered set, and although the European kinds are most desirable in rockeries, they would be more desirable had they from four to six times the quantity of flowers as the present plant has. It is likely also to prove the hardiest of the whorled set, as it comes from a very high elevation, and therefore better able to stand our winters than japonica, verticillata, or Boveana. *P. Kaufmanniana*, Regel, is said to have two or three tiers of whorls; we have not, however, seen it with more than one. It requires a rich soil in a partly shady position. The leaves coming from a short stem are from 6 to 16 inches long, oblong, running into a broad-winged petiole, irregularly toothed, and

the under side covered with a straw-coloured meal. The flower stem is from 1 to 2 feet in height, with five or six whorls of sweetly scented flowers, pale golden yellow, from a half to an inch in diameter, each whorl containing about a dozen flowers surrounded by narrow acuminate bracts. It commences to flower in June, continuing until August. It inhabits the loftiest mountains of Java, from 8000 to 9000 feet elevation. Syn., *P. imperialis*, Jungh; *Cankrienia chrysantha*, De Vriese."



FIG. 1.—PRIMULA IMPERIALIS (Plant greatly reduced).

The tall habit of this Primula is somewhat against its horticultural popularity, but if a cross could be obtained between it and *P. japonica* it is possible a race of distinct and useful plants might be secured.

### PROLONGING THE SUPPLY OF HARDY FRUITS.

[First prize essay by Mr. A. WRIGHT, Devonhurst, Chiswick, Chiswick Gardeners' Association.]

THE importance of prolonging the supply of hardy fruits cannot be over-estimated where fresh supplies are in demand for home consumption. Each year increases our knowledge of the value of fresh fruit as food for man, and hence the gardener is called upon to supply, not only fruit in greater abundance, but in greater variety, and continued over a longer season. This is no easy task when the numerous enemies the gardener has to contend against are taken into consideration. Birds are some of the greatest pests that attack ripe fruits, but we must not on this account destroy our feathered songsters, as they amply repay us for their share of the fruit by their song and the destruction of insects. Instead, then, of destroying the birds, we rather try to keep them at bay when the fruit is ripe, and for this purpose various methods are tried. Old herring nets are largely used, and when properly employed are a great protection. The birds are sure, however, to effect an entrance in time, and it is



surprising the quantity of fruit they carry off. Matting the bushes is another means often adopted in the case of Red and White Currants, or Gooseberries, but it entails much labour and material, and in the end is not quite satisfactory. It is remarkable that birds very soon discover where good fruit is to be had, and they can also pick out the best. Again, in dry seasons birds become bolder; due, no doubt, to the scarcity of wild fruits or the short season in which they can be obtained. In order to guard against this evil I would strongly recommend the erection of wooden structures covered with wire netting. A house of this description costs very little, and serves its purpose better than anything I know. It can also be covered with roller blinds to protect the trees when in flower against frost, and when the fruit is ripe they can be used to shade it from bright sunshine, and thus help to retard and prolong its season.

#### THE BEST FRUITS.

The fruit trees best suited for planting in a house of this description are Cherries, the season of which can be considerably lengthened in this way; indeed, the fruit of the Cherry improves in quality by being kept as long as possible after it is ripe. Gooseberries, although they are by some not considered worthy of a place amongst dessert fruits, are by others much esteemed, and in most places they would find a place in a house of this description. Red and White Currants should also not be forgotten, for when other fruits are getting scarce they are useful for a change. Black Currants would also prove a welcome dish, also Blackberries, more especially some of the newer introductions, especially as they ripen later than the other kinds. If planted along the side of the house the shoots can be trained to the netting, and are thus secure. Although the Blackberry may not be considered a dessert fruit, it is eagerly sought after for puddings. The Alpine Strawberry could also be grown here. It could be planted along the sides of the paths, and would be prized during the autumn. If our hybridists would take up this Strawberry and improve it a valuable addition to our dessert fruits would be made.

#### DESCRIPTION OF FRUIT HOUSE.

The size of the house would of course depend upon the demand that has to be met, but the following is the method of erection. It should for preference be span-roofed, the posts for the side being about 9 feet long and about 6 or 7 inches in diameter, and if larch posts can be had about that size they last for a long time. Char the base, so as to preserve it as much as possible. Let the post into the ground about 2½ feet in depth, thus leaving about 6 feet above the surface. The posts may be placed 6 feet apart, and see that the tops are kept level. On the top of them place a cell plate, 4½ inches by 3 inches, bevelling off three-quarters of an inch to the inside, so that the water will readily run away. The rafters, which will be placed at the same distance apart as the posts, may be 4½ inches by 2 inches, using a ridge board 7 inches by 1½ inch. At every alternate rafter place a tie rod of half iron across the house to strengthen the whole. It will be necessary to leave a door at each end of the structure, and they should each be fitted with a lock. The netting suitable for covering is 1-inch mesh galvanised wire. This will exclude all birds likely to do any harm. The wire can be put on the length-way of the house, and the edges bound together with wire, making it fast with staples to all the posts and rafters. If considered desirable a covering made with two boards can be fixed at the ridge to protect the roller blinds from wet. The blinds for shading should be of canvas, such as that used for shading, only use the stout kind. Before the netting is fixed it would be well to paint the woodwork so as to protect it from the weather. The roller blind will be found useful in spring, when the trees are in flower, in protecting them from frost, and when the fruit is ripe in shading from bright sunshine, thus helping in the first place to ensure a better supply, also preserving it a longer time in perfection. The arrangement of the house will depend upon its width. If not exceeding 20 feet a path through the centre will be sufficient, but in a wider structure it would be advisable to make a central bed with a path round it, thus leaving a bed on each side. The large trees can by this means be kept in the centre of the house, and the bush fruit round the sides, the ends being planted with Blackberries. This would give ample space for full development.

#### PREPARATION OF THE SOIL.

In the preparation of the ground it is important to trench it thoroughly—viz, two or three spits deep, giving at the same time a good dressing of manure, with plenty of lime rubbish added to it. Where chalk can be had it may be substituted, that which has been pulverised by exposure to the weather being preferred. Wherever stone fruits are grown lime should form an essential element in their successful culture, many failures in Cherry, Peach, and Nectarine growing being traced to the want of this material in sufficient quantity in the soil. It therefore becomes important that simple details like this are not overlooked in making a fresh plantation. This also explains why stone fruit generally does so well on chalky soils. If the soil is too heavy more lime rubbish or chalk may be added as well as plenty of refuse from the fire heap where garden refuse has been burned, all of which will keep the soil open. On the other hand if the ground is light it is best to give a heavy mulching of cow manure.

Having thus prepared the ground laying out the beds will next demand attention. We may suppose for convenience that the house is 30 feet wide, which will allow of a centre bed being formed 12 feet wide, and in which may be planted Cherries, either trained on trellises

across the bed or as pyramids. If the former mode of treatment is adopted the trellises may be constructed under the rafters by placing a support at each side of the bed, and making the top secure to the rafter. The trellis may then be formed by wiring at 6 inches apart and by placing one under each pair of rafters; in this way a space of 6 feet is allowed between the trees, which will be found to be sufficient.

(To be continued.)



EVENTS OF THE WEEK.—A list on another page gives the Rose shows for the week, and it is only necessary to call special attention to the National Society's Metropolitan Exhibition at the Crystal Palace on Saturday, July 4th. The Royal Horticultural Society's Show and Conferences at Chiswick on July 7th and 8th are noted fully in two following paragraphs, as also is the Royal Botanic Society's Evening Fête on July 8th, while the annual dinner of the Gardeners' Royal Benevolent Institution the same evening is referred to at some length in our leading article this week. The Teddington Royal Horticultural Society will hold their twentieth annual Exhibition on Wednesday, July 8th.

— THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION OF SMALL FRUITS AND CONFERENCES will be held on Tuesday and Wednesday, July 7th and 8th next, in the gardens at Chiswick. Medals and money prizes are offered in the following classes—Eighteen bunches of hardy perennials, distinct; twelve bunches of hardy perennials, distinct; eight bunches of hardy perennials, distinct; six dishes of Strawberries, distinct, not less than thirty fruits to a dish; four dishes of Strawberries, distinct; one dish of Strawberries; collection of Raspberries; collection of Currants; two dishes of ripe Gooseberries, distinct; six dishes of green Gooseberries, distinct; new plants and flowers; new fruits and vegetables; three dishes of Peas, twenty-four pods each, of Sharpe's "Sir F. A. Millbank," Sharpe's "Queen," and Sharpe's "Triumph;" six varieties of Gaillardias, five blooms of each (silver Kelway medal).

— ON Tuesday THE CONFERENCE ON HARDY SUMMER-FLOWERING PERENNIAL PLANTS will commence at 2 P.M., and the papers to be read are as follows—Opening Address by Mr. W. Marshall, F.R.H.S., Chairman. "Some Results from Wild Gardening," by Mr. W. Robinson, F.L.S. "On Some of the Summer Flowers of my Garden," by the Rev. H. Ewbank, M.A., F.R.H.S. "Herbaceous Plants," by the Rev. A. Rawson, M.A., F.R.H.S. "The Picturesque of Hardy Summer Perennial Plants," by Miss Jekyll, F.R.H.S. Mr. Potter (of Messrs. Backhouse, York) has also been asked to read a paper. On Wednesday the Conference on Strawberries, Gooseberries, Raspberries, Currants, and other small fruits will also commence at 2 P.M., and papers to be read on that occasion are an opening address by Mr. G. Bunyard, F.R.H.S., Chairman. "Strawberries for Private Gardens," Mr. W. Allen, F.R.H.S.; "Strawberries for Forcing," Mr. G. Norman, F.R.H.S.; "Gooseberries for Private Gardens," Mr. D. Thomson, F.R.H.S.; "Gooseberries for Exhibition," Mr. C. Leicester; and "Raspberries," by Mr. G. Wythes, F.R.H.S.

— THE ROYAL BOTANIC SOCIETY'S EVENING FETE will be held on Wednesday, July 8th, when the following classes are provided. Division 1.—Natural Flowers, Fruit, &c.—Floral Decorations arranged for a Dinner Table 10 by 5. Ditto, ditto, dressed ready for Dessert. Foliage and Flowers suitable for a Sideboard. Ditto, ditto, Hardy Plants only. Group of specially Sweet Scented Plants. Group of Plants, arranged for the decoration of a Recess in a Room, for an Alcove, or a Fire-place. Standing Basket, Vase, &c., furnished with Plants suitable for growing in a Living Room. Hanging Basket, of any material, with growing Plants. Outside Window Box of Growing Plants for Summer; also another with Hardy Plants for Winter. Bridal Bouquet. Ballroom Bouquet. Bouquet, of other form than the usual circular. Group of Flowers, stalks in water, and neither tied nor wired. Arrangements of Flowers and Leaves for personal adornment, such as wreaths, chaplets, and the like, and also for use in dress trimming. Arrangements of Flowers and Foliage for the Decoration of Ballrooms. Miscellaneous.—Objects for purposes similar to the above but not coming strictly into any class. Division 2.—Works of Art.—Paintings, Drawing, Sculptures of Flowers,



Plants or Trees. Artificial Flowers. All exhibits in Division 2 must be at the Gardens a clear week before the day of the Fête for acceptance, and if accepted remain on exhibition during a clear week after the day of the Fête. Medals, and money prizes from £5 to 10s., will be offered in each class.

— THE *Times* of Saturday announced that "SIR GEORGE MACLEAY of Pendell Court, Bletchingley, Surrey, and Elizabeth Bay, Sydney, died at the Châlet des Rosiers, Mentone, last Wednesday, in his eighty-second year. He was a son of Alexander Macleay, formerly Colonial Secretary and Speaker of the Legislative Council of New South Wales. He was educated at Westminster, and was for many years a member of the Legislative Council of New South Wales. For his public services to that colony, as well as for assisting in Australian explorations, he was created a C.M.G. in 1869, and advanced to K.C.M.G. in 1875." To horticulturists Sir George Macleay was chiefly known through the exhibits of rare and remarkable plants occasionally sent from the gardens at Pendell Court, Bletchingley, where for some years Mr. C. Ross has had charge. Several of these have been illustrated and described in this Journal, the most recent being *Stapelia gigantea* at page 359, October 23rd, 1890.

— GARDENERS' ORPHAN FUND.—At a meeting of the Committee, held on Friday night last, the Secretary announced several promises of flowers and plants for the Floral Fête and Rose Fair, to be held at the Crystal Palace on July 15th, and it was thought that many gardeners and owners of private gardens would like to contribute Roses or other flowers for sale. Messrs. Molyneux and Sharman are vying with each other in getting the best possible cricketers for the national contest between gardeners and seedsmen on the occasion. All who are willing to send flowers are requested to communicate with Mr. A. F. Barron, Chiswick Gardens, London.

— DEATH OF MR. CHARLES PENNELL.—On the day after the publication of our last issue we received an announcement of the death of Mr. Charles Pennell of Lincoln, which occurred after a protracted illness on the 21st ult. Mr. Pennell was an able and high-minded provincial nurseryman, greatly respected far beyond the confines of his native city, of which of late years he was a trusted Guardian of the Poor. Some time ago he retired from the business in favour of his sons, who are well qualified to conduct it. The late Mr. Pennell greatly extended the trade of the firm and formed new nurseries, those at Bracebridge being about 80 acres in extent. He was a successful man, most courteous and kind to all with whom he came in contact. Mr. Pennell was sixty-five years of age.

— AMELANCHIER FLORIDA is useful amongst dark evergreen shrubs. The white freely produced blossoms form a good contrast with the shrubs below and its own green leaves. Three or five tall standards in a clump make a good show in spring. Although this tree flourishes in very strong soil without any special preparation, a little assistance in the shape of manure applied to the roots repays with a fuller crop of flowers and luxuriance of growth.—E.

— THE SCOTTISH PANSY SOCIETY, EDINBURGH.—The forty-seventh annual Exhibition of this Society was held June 19th at Edinburgh, and the Scotch growers were in fine form, a grand lot of blooms, and the best and largest gathering of flowers the Society has had. In the nurserymen's class for twenty-four Show Pansies, dissimilar, First, Mr. M. Campbell, Blantyre. Second, Mr. A. Lister, Rothesay. Third, Mr. John Smillie, Busby. For twenty-four Fancies, dissimilar, First, Mr. Lister. Second, Mr. Smillie. Third, Mr. Campbell. For six seedling Show Pansies. First, Mr. A. Irvine, florist, Tigh-na-bruaich, For twenty-four bunches of bedding Violas, distinct varieties. First, Messrs. Dickson & Co., Edinburgh. Second, Mr. Geo. Wood, Hawick. Third, Mr. J. Forbes, Hawick. The amateur and gentlemen's gardeners' classes were well filled and the competition keen; Mr. A. Ottar, Campbelltown, and Mr. J. Stewart Lenzie, taking leading positions.

— THE superiority of ELLAM'S CABBAGE over others is again apparent by the quick manner in which the plants are ready for use after they commence to grow, indeed its earliness is one of its recommendations, and "non-bolting" during growth is another which cannot be praised too highly. The late winter was a severe test for Cabbages; the frost of November 28th killed hundreds, and so did the frost and snow in the early part of March. In spite of these unfavourable conditions we commenced cutting compact Cabbages from an open bed on May 16th. Another point in favour of Ellam's Cabbage is its compact growth, rendering it especially suited for small gardens. The plants

may be placed out 1 foot apart each way. While many persons are complaining of their Cabbages bolting, I have not seen a single "runner" in our bed. The seed should be sown early in July.—A GARDENER.

— WOODBRIDGE HORTICULTURAL SOCIETY.—We are desired to state the above Society will hold their fortieth annual Show on July 9th, at which £150 is offered in prizes, also the National Rose Society's medals. Next year a 25-guinea silver eup will be offered for Roses.

— THE FRUIT CROPS IN KENT.—The annual sales of Cherries in Kent demonstrate more than anything else the scarcity of soft fruit in some districts this season. At a large sale near Sittingbourne last week an orchard containing 100 acres of Cherries failed to secure a single bid, whereas in former seasons the fruit on the same plantation has been known to realise £1200.

— TRADE ANNOUNCEMENTS.—We are informed that Mr. J. R. Petch, formerly with Messrs. R. Smith & Co., Worcester, has taken the business of Mr. J. Stevens at Saffron Walden, which he and his son will carry on as nurserymen and seedsmen. We also learn that Messrs. Backhouse & Son of York have secured Messrs. Booty & Co.'s nursery at Harrogate as a branch establishment.

— WEATHER AT LIVERPOOL.—A severe thunderstorm visited Liverpool last Wednesday and Thursday. The rain came down a perfect deluge, and it is a great many years since anything like it has occurred. On several days the heat was intense, and Peas with other vegetables are growing rapidly. The rain has had a beneficial effect in removing many insects and withered blossoms from the fruit trees.

— ANEMONE APENNINA is one of the most showy of the early spring flowering hardy plants. The extremely bright blue flowers are always appreciated. When once established it flourishes either in the border or on the rockery, but nowhere does it show to greater advantage than when covering the ground amongst standard Roses. Whether these are planted singly or in a mass it matters not. What could be more telling than a mass of this Anemone 6 feet over when in full bloom?—S.

— GARDENING APPOINTMENTS.—Mr. W. Seabrook, for several years foreman of the gardens at Aston Clinton, the residence of Cyril Flower, Esq., M.P., has been appointed gardener to Lord de Ramsey, Ramsey Abbey, Hunts. Mr. H. Dowding, formerly gardener at Little Gaddesden House, Berkhamsted, has been appointed gardener to the Bishop of Winchester, Farnham Castle, Surrey; and Mr. Joseph Lee, late foreman at Highbury, Birmingham, the residence of the Right Hon. Joseph Chamberlain, M.P., is appointed gardener to Earl Howe, Gopsal Hall, near Leicester.

— THE ESSEX FIELD CLUB.—The members of the above Club had a botanical ramble from Chelmsford to Maldon on Saturday last, June 27th. Directors:—Messrs. F. Chancellor, E. Durrant, and E. A. Fitch. The programme was as follows:—Leaving Liverpool Street Station (G.E.R.) by the 12.5 train (12.16 at Stratford, 12.42 at Shenfield), arriving at Chelmsford Station 1.1. Carriages left the Saracen's Head at 1.30, and the party (in company with members of the Essex and Chelmsford Museum, students' section—botany) were driven along the Baddow Road, and, alighting, walked up the fine avenue of old Oaks, Elms, and Beeches to "Great Graces," Little Baddow, an ancient and once important Manor House, taking its name from the family of De Gras. Then the ramble was commenced through Blake's Wood (110 acres), past "Old Riffhams" (Mr. Charles Smoother's), through "Holly Grove," the home of the Foxglove (Folk's-glove), over Lingwood Common, noting the extensive prospect, and through "Bell Hell Wood," concerning the origin of the name of which Holinshed tells a wild legend. Leaving this wood, they proceeded up the meadows to Danbury, and to the ancient and well-known hostelry called the Griffin, near Baddow (immortalised in these words in the introduction to "Waverley"), where tea was served at four o'clock. This is nearly the highest spot in Essex (366 feet above O.D.). The Club visited Danbury on August 13th, 1881. The early English church (St. John the Baptist) stands within the bounds of Danbury Camp, figured in Morant's "Essex," and more accurately by Mr. F. C. J. Spurrell in "Essex Naturalist," vol. iv., 138. The ancient and interesting features of the church were pointed out by Mr. Chancellor, notably the three cross-legged wooden effigies of crusaders, presumably the St. Clere family (*temp.* Edward I.), figured in Chancellor's "Ancient Sepulchral Monuments of Essex," plates 33 and 34. After tea the ramble was continued along the Rodney Road towards "Cherry-tree Cottage," then through "Fir-trec" and "Pheasant-house"



Woods, which include a large variety of forest trees, notably some fine Beeches, and where the Butcher's Broom is abundant. Across Woodham Walter Common, covered with Oak scrub and the home of the Lily of the Valley, the Sundew, Buckbean, Wood Pimpernel, many Ferns, and other interesting plants, such as the Deptford Pink and Golden Saxifrage. From a sandy knoll just outside the Common, once the home of the badger, an address was delivered, "Botany in its Relations to Geology," by Dr. J. E. Taylor, F.L.S., F.G.S., Editor of "Science Gossip."

— SUPERINTENDENT OF LONDON PARKS.—At a recent meeting of the London County Council a recommendation of the General Purposes Committee was considered to the effect that a salary of £700 should be offered for a Superintendent of Parks and Open Spaces. This was discussed at some length, but ultimately rejected by 41 votes against 40 for the proposal.

— FLORAL DECORATIONS AT WIMBORNE HOUSE.—On the occasion of Lord and Lady Wimborne's great dinner party and ball at Wimborne House, Arlington Street, on Wednesday, June 24th, the floral decorations were extremely tasteful yet simple. Upon the tables were large central and smaller surrounding stands filled with spikes of *Gladiolus Colvilli*. Sweet Peas, and *Cattleya* flowers, with *Asparagus plumosus* and *Pteris* fronds as the foliage, while upon the cloth were wreath of Sweet Peas and sprays of *Myrsiphyllum*. In the other rooms, the corridors, and conservatory were massive vases of handsome *Pæonies*, with some cut *Carnation* flowers; but the great feature was a beautiful bank of *Carnation Souvenir de la Malmaison*, arranged upon a broad mantleshef in front of a mirror, and margined with Ferns. The well-grown plants, their fine glaucous foliage and substantial flowers, were there seen to great advantage in their true characters. The gardener at Canford Manor, Mr. T. H. Crisp, has been as successful in the culture of these plants as he was in the extensive tree-lifting experiments carried out during last autumn and winter.

— PRUNING GOOSEBERRY AND CURRANT TREES.—I know many gardeners do not practise pruning Gooseberry and Currant trees at this time of the year, but I took the hint from the Journal several years ago, and have regularly followed it ever since. It has only one drawback that I know—it has to be done at a busy season, when everything else needs attention. Against this its advantages are—all the sap can flow into the fruit, and the remaining young growths for fruiting next year are exposed to more sun and air; also the fruit is better ripened and more easily gathered. Last, but not least, it is a much more pleasant operation in the summer than in the winter. All the young growths should be thinned to their proper distance, the under-growths and those throwing up from the centre of the tree should be taken clean away, and only the pruning needed in the winter will be to cut away some of the old wood on which the fruits are hanging thickly now, and consequently cannot be removed. I hope my Gooseberries and Currants will be all pruned by the time this is in print. I used to practise pruning Pear and Plum trees at this season, but now I am under the impression it is a mistake to do so before August. I thin the young growths by breaking them off clean where they are too thick, leaving the rest until they have stopped growing in August.—ALMA.

— SCARCITY OF EARLY STRAWBERRIES.—It is not often early Strawberries have been so scarce hereabouts as they have this season. At one time there was every prospect of the crops being both early and exceptionally heavy, but the frosts at Whitsuntide spoilt nearly all the bloom expanded or only slightly so, and it is entirely due to this unfortunate occurrence that the fruit has been, and up to the present time (June 25th) still is, so scarce. On June 22nd they were offered in comparatively small quantities at 1s. 4d. per lb. at Bristol, and in smaller towns they are selling readily at 4d. less, small and large fruit all going together. Our few hundred plants of Noble on a raised south border were well set with fruit when the frosts came, and these escaped; consequently, we were able to gather nearly 80 lbs. of fruit before we heard of anyone else having any ripe in the open. Even those who were disposed to find fault with the quality of Noble last season are now obliged to admit they were unwise in not planting it, and for one more season, at any rate, it will be the most extensively grown early variety in these parts. Nearly all the early blooms on the plants of other varieties in the open were destroyed by frosts, so that there will be but few very fine or moderately early dishes gathered from these this season, and I shall have to depend upon small fruit of Noble to keep up the supply.—W. I., Frome.

— HOYA CARNOSA is a capital plant for covering the back wall of a lean-to late vinery. The shade provided by the Vines, the heat and moist atmosphere necessary for Grape culture, appear to just suit this Hoya. Many persons hardly know what to grow to render walls of fruit houses ornamental, and especially vineries, where they are not only differently constructed, but are more densely shaded than Peach houses for instance. Planted in rough peat, leaves, and sand, and given abundance of water when in full growth, this Hoya will make shoots from 6 feet to almost double that length in one season when once established. Trained on wires close to the wall the trusses of bloom which are freely produced during the early part of June show to the best advantage, as owing to their pendent habit they require to be seen from below. One plant will perfume a whole house when closed in the evening, so powerful is the fragrance of the flowers. The less the blooms are cut the better for the next season's crop, as from the same base the flower trusses spring for next year. The low temperature to which late vineries are often subjected after the Grapes are cut does not interfere with the success of *Hoya carnosa* as long as frost is excluded from the foliage. The low temperature and thorough rest which the Vines receive in winter benefit the Hoya.

— WHITE AQUILEGIAS of the Munstead Giant type make a grand display in the herbaceous borders, where the flowers are well surrounded with greenery, which sets these Columbines off to the best advantage. I lately saw a splendid double variety which deserves to be considerably increased, so well did it look in the position named. It was not one of those compact close petalled sorts which are too neat to catch the popular taste, but one with enough petals to warrant its being classed as a double sort. The foliage of *Aquilegias* is in itself pretty, so many tints pervade the naturally glaucous hue of the leaves to render them attractive; besides this, the leaves last fresh a long time after being cut and placed in water.—M.

#### RICHMOND (SURREY) SHOW.

THE Exhibition of the above Society, held last week (June 24th) in the Old Deer Park, was in some respects superior to those which have preceded it, but in others, due mainly to the season, it was far below the usual standard. The entries were said to be more numerous than before, and the central one of the three marquees had been increased in length by 40 feet to accommodate the additional exhibits. One tent was devoted to floral decorations and Roses, the large one to specimen plants and groups, while a third contained the fruit, vegetables, and cottagers' productions. The quality was good throughout with the exception of the Roses, which constituted the weak portion of the Show, although last year it was the strongest. The season was so late that it was at one time feared no exhibit would be obtained in these classes at the date fixed. Happily the result was better than anticipated, and though the blooms were wanting in size and substance they were fresh and mostly bright in colours. The stove and greenhouse plants were much better than usual, and some fine specimens came from Pewsey, the Heaths in particular being very notable. Of the groups, which always form an attraction at Richmond, Mr. W. Brown, jun., again contributed the most tasteful arrangement, and he bids fair to rival his father's best efforts in decorative skill. There were also non-competing exhibits in numbers and of much interest, and altogether the Committee and officers had every reason to be satisfied with the display. During the afternoon the Duchess of Teck and her daughter visited the Exhibition, when there was a large attendance of visitors. A tent was also devoted to Roses and other cut flowers to be sold for the benefit of the Gardeners' Orphan Fund, and we shall expect to hear that the returns were substantial.

We can only briefly refer to the chief classes, in which the principal winners were as follows. Taking the tents in the order they were visited, amongst the Roses Mr. H. May, Bedale, took the lead with thirty-six blooms, and in the twenty-four blooms class Messrs. D. Prior and Sons, Colchester gained a similar position also with Tea Roses. The leading amateur exhibitors were Mr. C. Warwick, gardener to J. P. Kitchen, Esq., Manor House, Hampton; R. E. West, Esq., Reigate; Mr. W. Croker, gardener to W. Regester, Esq., Lawn Lodge, Isleworth; and Mr. John Parsons, gardener to T. Twining, Esq., Twickenham. A central table, the whole length of this tent, was occupied with stands of flowers, baskets, bouquets, and other floral ornaments, many showing great taste, and the competition was keen. Mr. T. Butcher, Norwood; Miss C. Cole, Feltham; Miss M. Mouflet, Castle House, Isleworth; Miss L. Wigan, Cromwell House, Mortlake; Mrs. W. Lang, Richmond; and Miss E. C. Clarke, Twickenham. Messrs. Perkins and Sons, Coventry, were, as usual, first with a bouquet.

In the next tent the groups arranged for effect were placed round the sides, the specimen plants in the centre. Besides the premier group from Mr. A. Brown, jun., Marshgate, Richmond, already referred to, Mr. H. E. Fordham of Twickenham, Mr. H. James of Norwood, Mr. J. Currey of Salisbury, exhibited distinct and handsome collections of plants well arranged. The six stove and greenhouse plants from Mr. J. F. Mould, Pewsey, Wilts, for which he was placed first, included three admirable Heaths, a *Bougainvillea glabra*, *Dracophyllum gracile*, and *Statice profusa*, all fresh and well grown. *Pelargoniums*, *Tuberous*



Begonias and Orchids, fine-foliage plants, and Ferns were represented by exhibits from the following :—Mr. Charles Turner, Royal Nurseries, Slough ; Mr. J. Wiggins, gardener to D. Baldwin, Esq., Hillingdon Heath ; Mr. G. Watts, gardener to H. Little, Esq. ; Mr. E. Coombs, gardener to W. Furze, Esq., Roselands, Teddington ; Mr. White, gardener to Mrs. Watson, Redlees, Isleworth ; Mr. J. Sallows, gardener to Miss Vaughan, Twickenham ; Mr. R. Mitchell, gardener to W. Cunard, Esq., Orleans House, Twickenham ; Mr. J. Currey ; Mr. W. H. Young, grower to F. Wigan, Esq. ; and Mr. J. Ryder, gardener to C. Young, Esq., Richmond.

The fruit classes were well filled for the season and the exhibits good, especially the black Grapes. The chief prizes were secured by the following exhibitors :—Mr. F. Debnam, gardener to A. Pears, Esq., Spring Grove House, Isleworth ; Mr. T. Barnes, gardener to W. S.

### NEW ANTHURIUMS.

FOR some years much attention has been paid to the culture of Anthuriums at the Dorking residence of Sir Trevor Lawrence, Burford Lodge, and from time to time we have had occasion to note the admirably grown plants and handsome novelties sent thence to the shows and meetings of the Royal Horticultural Society. Two others now demand attention, and they will take a prominent place amongst those already introduced. These were shown at the meeting in the Drill Hall on Tuesday, May 12th last, when the Floral Committee recognised their merits by the award of first-class certificates. The one of which



FIG. 2.—NEW ANTHURIUMS (REDUCED).

Graham, Esq., Abercorn, Richmond Hill ; Mr. W. Bates, Poulett Lodge, Twickenham ; Mr. George Clinging, gardener to W. Greenwell, Esq., Caterham Valley ; Mr. C. J. Waite ; Mr. T. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey ; Mr. J. Fanning, gardener to Mr. H. Pocock, East Sheen ; Mr. G. H. Sage, The Gardens, Ham House ; and Mr. D. Campbell, gardener to Dr. Wood, The Priory, Roehampton.

The best collection of twelve dishes of vegetables came from Mr. C. J. Waite, excellent samples ; and Mr. G. H. Sage won premier honours for nine dishes with clean, even, and creditable specimens. Special prizes offered by seed firms also brought several competitors.

The non-competing groups comprised Begonias, Orchids, and foliage plants from Messrs. J. Laing & Sons, Forest Hill ; greenhouse and other plants from Messrs. Cutbush & Son, Highgate ; Palms and fine-foliage from Mr. W. Ieeton, Putney Park Lane ; Violas and Phloxes from Mr. W. Chambers, Isleworth ; Roses from Messrs. Jackman & Son, Woking ; Odontoglossums from Mr. Cullimore, gardener to M. Cooke, Esq., Kempton Hill ; and greenhouse plants from Mr. Mould of Pewsey.

a spathe and leaf are shown on the left hand side of our engraving (much reduced) is *Anthurium burfordiense*, a variety of hybrid of the *A. Andreanum* type, but differing in colour, which is a rich shining crimson. The spathes are nearly circular, 7 inches in diameter, with a fine white spadix that affords a good contrast with the dark spathe.

The other variety shown on the right of the engraving, also much reduced, is *Anthurium Laingi*, which has broad spathes larger than the preceding and pure white ; the leaf also is very handsome, being deeply cordate, 18 inches long and 15 inches broad, of a rich green shade. The ornamental value of this plant is considerable, and in contrast with the preceding or any of the dark-coloured Anthuriums it is seen to excellent advantage. Like others of the family they need stove treatment, a light compost of peat and charcoal, with abundance of water during the growing period.





## ROSE SHOWS.

Now the Rose season has commenced it will be desirable to remind our readers of the dates of the principal gatherings. They are as follows:—

- July 2nd (Thursday).—Farningham, Norwich, Lee, and Brighton (second day).  
 „ 4th (Saturday).—Crystal Palace (N.R.S.)  
 „ 7th (Tuesday).—Diss and Gloucester.  
 „ 8th (Wednesday).—Dursley, Hitchin, Sutton, and Tunbridge Wells.  
 „ 9th (Thursday).—Bath and Woodbridge.  
 „ 11th (Saturday).—Eltham, New Brighton, and Reigate.  
 „ 14th (Tuesday).—Wolverhampton (a three-days Show).  
 „ 15th (Wednesday).—Ealing.  
 „ 16th (Thursday).—Hereford (N.R.S.), Bedford, Helensburgh, and Trentham.  
 „ 17th (Friday).—Ulverston.  
 „ 18th (Saturday).—Manchester.  
 „ 21st (Tuesday).—Christleton and Tibshelf.  
 „ 23rd (Thursday).—Halifax and Worksop.  
 Aug. 1st (Saturday).—Ripley (Derby).

We regret that the alteration of date of the Eltham Rose Show was not made in our standing list, and the original date, June 27th, was transferred to the list of events on page 509 last week. The correct date of the Show is July 11th.

## TEA ROSES AT WESTMINSTER.

IN the account, on page 509, of the National Rose Society's early Show of Tea-scented Roses, the opening sentences (lines 4 and 5) contain a statement to the effect that the blooms exhibited were "cut chiefly from under glass." This strikes me as a most unfortunate remark, calculated largely to defeat the main object of the Show, which is no doubt partly designed to make more generally known the earliness which characterises the blooming of the loveliest of all Roses out of doors, for I imagine that of the blooms staged in the Drill Hall last Tuesday those that had been grown under glass might have been counted on the fingers of one hand.—T. W. GIRDLESTONE.

[We are glad to learn on such good authority that the clean, fresh, and beautiful blooms exhibited had been produced without the aid of glass protection. Mr. Girdlestone is supported by another eminent rosarian, who states that not one of the blooms had been grown under glass.]

## LARGE GROWERS AND SMALL CLASSES.

THE note in your last issue over the well-known signature W. R. Raillem, revives the vexed and still unsettled question which I have ventured to put into the above form. The letter, and the determination which it expresses, are quite consistent with the position taken by your correspondent in opposition to "An Exhibitor," myself, and others on a previous occasion; but I ask leave to point out that this position is an absolutely unfair one, and fully bears out the contention that the small grower is very severely handicapped; that, in fact, he has no guarantee that his fellow competitors shall be men of his own calibre, but he is exposed to the attacks of those whose stock of plants, time at disposal, experience, and other points of equipment are sufficient to completely "swamp" him. Upon the principle *qui s'excuse, s'accuse*, the letter of your correspondent completely admits all this, for it is obviously penned with the desire to anticipate the very reasonable objection which would be offered to the idea of such growers competing in the smaller classes.

We all know that, until the last week, the season has been a most trying one for our Roses, but this only makes it the more unfair for large growers to show in the small classes; for if these gentlemen with their big battalions and the assistance they can command have been hard hit, how have the men fared who have but small stocks, and who are dependent upon their own hands for their cultivation? No, sir, the principle of showing in whatever classes one likes according to the exigencies of a particular season is an unjust one. When once a man has developed ability to show and win in a large class he ought not to be allowed to drop down into a small one unless he has, at least, proportionately reduced his stock.

Let us look how the principle works out. W. R. Raillem claims the same licence for other growers as for himself—that is, that exhibitors in the class for forty-eights last year may show in the twenty-fours this year. Well, then, I suppose the thirty-six and twenty-four men may drop down into the twelves; the former exhibitors of twelves go down to the sixes; and then what is the small, bonâ-fide amateur, who with difficulty can muster six good blooms from his small stock, to do? Simply drop out altogether, or else stand to his guns and be "wiped

out" by such powerful antagonists as your correspondent. For, be it borne in mind, if the rules of the Society and the ethics of good taste will allow a man to drop from forty-eight to twenty-four under the pressure of certain circumstances, the same principle (or lack of it) will cause him to go to the very smallest classes under more severe pressure, and all this is unfair to the small man. The editor of the "Rosarian's Year Book" has more than once referred to this sort of thing, and, if memory serves me, has said of such an exhibitor, "he ought to be ashamed of himself!" I hope he and the N.R.S. will continue this attitude, and also adopt some means of protecting the small grower from his more powerful confrères.

By the time these lines appear the Palace Show will be upon us, and I shall look anxiously to see if your esteemed correspondent has come to a nobler frame of mind and is in his old place. I wish him every success there.—J. B.

## ROSE NOTES.

FEW Roses make a richer display during the early part of June on a wall, and especially if it has a south aspect, than the old Crimson China or Bengal Rose of the Indica type. The colour of the blooms which are profusely borne in clusters is intensely rich, shown to great advantage by the dark green of its own foliage with which the branches are freely covered. Rambling over the walls of cottages are many specimens of this old Rose. Indeed it is surprising how well they succeed, considering the treatment many receive, all current growth being cut in close from where it started with a hook directly flowering is past; new shoots are then made which have time to become partly ripened before winter sets in. From these the new growth and flowers are produced the following year.

Amongst June-flowering Roses there is none more lovely than the Persian Yellow when growing by itself, given space enough for it to develop evenly into a thoroughly rounded bush, which it does with little or no pruning; all it needs is space, and a yearly supply of flowers will result. Growing on grass no lawn plant could look more handsome than this neglected Rose. I lately saw a bush 6 feet high and as much thorough densely clothed with flowers. For cutting singly the stalks are too short, but in clusters, using the branches a foot or more long, a good effect can be made in a large vase. Those who have not tried this old favourite in the manner named should certainly do so.

Captain Christy is one of the best Roses for culture in pots in a small state, say plants to carry from five to eight blooms. As a decorative plant in a small pot this Rose is second to none. The fine tinge of colour which this variety carries in the centre of the blooms renders it simply charming. Under glass, too, the colours are very pure.—E. M.

## THE MIDLAND COUNTIES' PANSY SOCIETY.

THE first of what is to be an annual meeting of this new Society was held in Birmingham, June 24th, and was in every way a pronounced success, a very large number of blooms being staged, and several of the leading growers from Scotland attending and exhibiting—Mr. Cuthbertson, Messrs. Dobbie & Co., Mr. Campbell, Blantyre; Mr. A. Lister, Rothesay; Mr. Irvine, Tighnabruaich; Mr. Smillie, Busby, being present and competing. Mr. Charles Kay, Gargunnoch, sent his blooms, and Mr. Bai'cy, jun., Sunderland, and Mr. Hy. Brooke, Durham, both attended and competed. Several exhibitors in the more distant parts of the Midlands, and many growers in the nearer districts of Birmingham competed.

The Exhibition was originally fixed for the 10th, but owing to the season being late the Show was postponed until the 24th, so as not to clash with York on the 17th and Edinburgh on the 19th, but the hot sultry weather of a few days before the 24th had terribly tried Pansy blooms, and many could not exhibit stands they entered. Had the weather been cooler, as it has been since, the Central Hall, and it is a good sized one, would scarcely have held the blooms.

In the open classes to trade growers and others in eight midland counties, Messrs. Pope & Sons, The Nurseries, King's Norton, were first with fine blooms in the class for twenty-four Fancies; Mr. Pemberton, florist, Walsall, second; and Mr. George East, Leicester, third. For twelve new Fancy Pansies, sent out in the autumn of 1889 and subsequently, Messrs. Pope was first and Mr. Pemberton second. In the other classes in this section the prizewinners were the two exhibitors named; and Mr. Henry Hughes, a Birmingham amateur, secured the first prize for six seedlings not yet sent out.

In section 2, open to amateurs and gentlemen's gardeners only in the eight counties, there were numerous exhibitors. For twenty-four Fancies and eighteen Fancies Mr. A. C. Christie, Shifnal, was first, Mr. Egginton, Wolverhampton, second in each of the classes, others taking third and fourth prizes. For twelve Fancies.—First, Mr. H. Hughes. Second, Mr. W. Fletcher, Powis Lee Farm, Shifnal. Third, Mr. George East. Fourth, Mr. Fowler, Frasley, Tamworth. The several other classes were well filled, Mr. A. C. Christie being a leading winner. A section for amateurs in the midland counties who have never won a prize was arranged to induce amateurs to become exhibitors, and in the various classes Mr. Fowler; Mr. Thomas Woodward, Stoke Green, Coventry; Mr. E. Hill, Bulwell, Nottingham; and Mr. H. Hill, Small Heath, were the leading prizewinners.



The section, however, which created the greatest interest was that open to all comers, and here the great growers met in friendly rivalry. There were seven entries for forty-eight blooms. Mr. Smillie, florist, Busby, near Glasgow, first; Mr. A. Bailey, jun., Sunderland, second; Mr. M. Campbell, Blantyre, third; Mr. A. Irvine, fourth.

For twenty-four Show Pansies.—First, Mr. Bailey. Second, Mr. Smellie. Third, Mr. Campbell. Fourth, Mr. Irvine. For twenty-four New Fancy Pansies.—First, Mr. Smillie. Second, Mr. Irvine; and for six new Fancies of 1890 and 1891, first Mr. Smillie, second Mr. Irvine. Several seedlings by local growers were staged for certificates, but only one was awarded to Mr. James Simkins for "Baccarat" in the style of Allan Ashcroft; Mr. Henry Hughes staged a good variety—Mrs. R. Niven, which almost obtained a certificate. Amongst several of the new sorts to be sent out from Scotland the following are decided acquisitions, many of them from Mr. Irvine—viz., Nellie Cook, May West, John Cook, Mrs. A. Irvine, John Morris, Minnie Tate, W. H. Gabb, Lizzie Irvine, Lizzie Forrest, a very fine yellow with superb blotch. Of the numerous sorts recently sent out the following were very fine:—Helen Christie, Tom Travis, Adolph Wertier, Teenie Mitchell, Maggie N. Scott, Miss Hudson (very fine everywhere), Mrs. Hugh Weir, Wm. Ross, F. R. McDonald, Mrs. W. Dean, George Anderson (so many grand blooms), Mrs. J. McConnell, William Caldwell, John Taylor, James Simkins, Mrs. Archer, Mrs. Freeland, Lord Hamilton, Mrs. M. T. Atkinson, Peter Strachan, Kate McArthur, Agnes Mabel, David Rennie, Donald Morrison, Alexander Ottar, J. J. Ashton, Mrs. R. Niven, and Alice Russell.

Messrs. Dobbie & Co., florists, Rothesay, staged a very fine display of Violas and Pansies, 100 well made up sprays of the former, fully sixty varieties, and 200 blooms or more of Fancy Pansies. These occupied a long table at one end of the room. Some of the most noticeable of the Violas were Duchess of Sutherland, Columbine, Goldfinch, Countess of Elgin, very distinct and fine; Lucy Ashton, a darker coloured Columbine; Lass o' Gowrie, a flower in the style of Mrs. Cobham; and Princess Beatrice, but distinct from either, to which a certificate was given; Annie King, a charming white, shaded with blush pink, to which a certificate was given; Mrs. Bellamy, Duchess of Fife, Bullion, Abercorn, Beauty, Gipsy Queen, Evelyn, Mrs. Grant, a beautiful shaded blue; Ada Adair, Mina Baxter, and The Mearns. A handsome gold medal, presented to the Society by Mr. Paul Lutz, was awarded to this fine collection. Amongst the Pansies were several fine blooms of Miss Hudson, a grand white self Fancy with superb blotch; a very fine bloom of David Rennie, Lord Hamilton and George Anderson, both very fine; Donald Morrison, Maggie A. Scott, Archie Buchanan, and Mrs. John Downie. Mr. W. H. Gabb, Small Heath, took the first prize for twelve bunches of Violas, and Violas are fast coming to the front at all Pansy shows. They richly deserve it, and as exhibited by Messrs. Dobbie & Co. here, are not so stiffly set up as at York.

My official duties as Secretary unfortunately prevented my taking the notes I intended, so that several flowers of great merit have to be passed without notice. This I greatly regret. The Exhibition was all round of a highly satisfactory character, and the Committee intend at once preparing the schedule for next year, as a strong wish was so generally expressed that the Society should continue its operations and on a more open and larger scale. We shall be very glad to receive suggestions and offers of support from any person interested in the culture of the Pansy.

Messrs. Thomson, nurserymen, contributed a handsome group of plants and memorial arrangements of flowers, which helped the Exhibition materially. Messrs. Hewitt & Co., Solihull Nurseries, contributed a fine lot of ornamental and flowering plants for the table, before which the Pansies were arranged, also a fine display of cut herbaceous blooms; and Messrs. Pope & Sons, nurserymen, sent some superb new Gloxinias and other plants; and Mr. Vertegans, nurseryman, the lovely Genista Andreana, Romneya Coulteri with very large, handsome white fragrant flowers, and other plants. An assortment of the Imperial Pansy trays on stands of various sizes were sent by the Imperial Hollow Ware Company, and will be welcomed by exhibitors, as a lid is added which closes down upon the blooms so that they can travel safely.—W. D.

### MUSHROOMS.

HAVING read Mr. Bennett's remarks in your Journal of June 11th on Mushroom Growing I send you a photograph of my Mushroom bed taken on May 27th last. It is a ridge bed, 26 feet long, 3½ feet wide, and 18 inches high, made in a cool shed, and contains 2½ tons of manure. The first gathering was on May 15th, and up to June 15th 133 lbs. have been gathered. I append cost, &c., which I think will compare favourably with Mr. Bennett's statement. I may here state that the bed is now in full bearing and likely to continue so for some weeks: 40 lbs. were gathered on May 27th, and 30 lbs. on May 29th. I have other beds just come into bearing which look equally as promising, and I shall have much pleasure in showing them to anyone interested in Mushroom growing. The spawn was supplied by Mr. George. Although my average is only one-half of Mr. Bennett's, the result is more satisfactory for one month's gathering. Of course the time of year will account for the low average compared with Mr. Bennett's, and also for getting

heavier crops. I cannot give cost of labour as it was done at odd times. I also enclose sample for you to see.

#### PRODUCE.

	£	s.	d.
One month's gathering, 133 lbs. Average price, 8d. per lb.	4	8	8
COST.			
2½ tons manure at 5s. 6d. ton	...	...	0 13 9
1½ bushel spawn at 2s. 6d. bushel	..	...	0 3 9
			0 17 6

—J. TOWNSEND, Florist, Redgrave Villas, Putney.

[The Mushrooms received were of good size and excellent quality.]



FIG. 3.—A MUSHROOM BED AT PUTNEY.

### WINCHESTER ROSE SHOW.

JUNE 30TH.

A VERY good Exhibition was held in the Guildhall of this ancient city on the date above named. The blooms were not large, nor were all the classes well filled, but many stands were beautifully fresh, especially, perhaps, those of Dr. Budd (Bath), Mr. B. R. Cant, Rev. J. Pemberton (Teas), and Mr. F. W. Flight.

In the class for forty-eight distinct blooms—First, Mr. B. R. Cant, Colchester, with medium-sized flowers, fresh and of good colour. Duchesse de Vallombrosa, Général Jacqueminot (rich), Gustave Pigeneau, Princess of Wales, Caroline Kuster, Prince Camille de Rohan were the best. Second, Mr. C. Turner, Slough, larger but not so good in quality, Hon. Edith Gifford, Souvenir d'Elise Vardon, and Earl of Pembroke being the most noteworthy. Third, Messrs. D. Prior & Son, Myland Nurseries, Colchester.

Twenty-four distinct (trebles).—First, Mr. B. R. Cant, with a very fine collection, the blooms very good in form, colour, and freshness. Ulrich Brunner (rich), Anna Ollivier (full), Mdme. Gabriel Luizet (exquisite), Général Jacqueminot, Duke of Edinburgh (excellent), Souvenir d'Elise Vardon (full), Mdme. Cusin (deep colour), Dr. Sewell, Rubens, Niphotos, and Mdme. Bravy were very fine indeed. Mr. C. Turner was a good second with heavier blooms. Mdme. Gabriel Luizet, Alba Rosea, La France, Marie Baumann, and Earl of Pembroke were particularly meritorious. Messrs. D. Prior & Sons third.

Twelve Teas or Noisettes, trebles.—First, Messrs. Keynes, Williams, and Co., Salisbury, with neat blooms. There were no other competitors in this class. In the amateurs' classes for twelve Teas or Noisettes the Rev. J. Pemberton out-distanced his competitors with a very good stand. Second, Dr. S. P. Budd, who followed closely. Third, Mr. F. W.



Flight, Twyford. Six Teas or Noisettes, trebles.—Mr. P. G. C. Burnand, Wray Park, Reigate, first with small blooms.

Twenty-four distinct Roses, open.—First, Dr. S. P. Budd, 8, Gay Street, Bath, with blooms of excellent form and colour, but not large: Le Havre, Etienne Levet, Marie Baumann, Alfred Colomb, A. K. Williams, Horace Vernet, Charles Lefebvre, and Louis Van Houtte (rich) being the leading varieties. Second, Messrs. Keynes, Williams, & Co. Third, Mr. Charles Kent, Clifton Cottage, Haylands, Ryde. Twelve distinct trebles.—First, Dr. S. P. Budd, who won easily with beautiful fresh blooms, good in form and colour, A. K. Williams, Horace Vernet, Alfred Colomb, Abel Carrière, Marie Baumann, Captain Christy, Mrs. J. Laing being admirably represented. Second, Messrs. Keynes and Co.

Twenty-four distinct, not open to nurserymen.—Dr. S. P. Budd was well first with even blooms, good in colour and form. The Rev. J. Pemberton was a good second, but with rather loose blooms. Third, Mr. F. W. Flight. Twelve distinct trebles.—First, Mr. F. W. Flight with small neat blooms, La France, Dr. Sewell, Madame Gabriel Luizet, and A. K. Williams being the best in the stands. Second, Rev. J. Pemberton. Twelve distinct, six Teas or Noisettes, and six Hybrid Perpetuals.—First, Dr. S. P. Budd, Souvenir de Thérèse Levet being richly tinted; an excellent stand. Second, Mr. F. W. Flight. Third, Mr. P. G. C. Burnand.

Twelve blooms of one variety, Tea or Noisette.—First, Mr. B. R. Cant with Niphotos, large, but rather loose. Twelve H.P.s, one variety, light.—First, Mr. C. Turner with La France, very fine. Second, Mr. B. R. Cant, with Madame G. Luizet, small but good. Twelve H.P.s, one variety, dark.—First, Dr. S. P. Budd with Marie Baumann, medium size, good in form, but pale in colour. Second, Messrs. D. Prior & Son with Fisher Holmes, small, but well coloured. Some other exhibits cannot be described this week.



#### HARDY FRUIT GARDEN.

**LAYERING STRAWBERRIES.**—Lose no time in attending to this as soon as the runners are large enough to be fastened down. The main point to be observed in order to procure a good crop of fruit the first season is to plant early, and to have the plants as strong as possible. Small 60-sized pots are the most convenient for rooting the runners in, and the earliest and best runners are always to be found where the plants are kept specially for stock purposes, and not allowed to fruit. A good soaking of water occasionally about the old plants will also assist materially in starting the runners into growth, and will make them more vigorous. Fill the pots with light loam, or a mixture of heavy loam and leaf soil, and place them in groups about the beds for convenience of watering. Small stones about half the size of the tops of the pots are the best to secure the runners down, as they tend to keep the roots cool and moist; but some persons use pegs with almost equal success. Unless the stock of any variety is limited it is not advisable to lay more than one plant from each runner, and the growing point should be pinched off closely at once; but where it is necessary to obtain every plant the secondary ones may remain for a few days until large enough to remove, and then be dibbled in under handlights behind a north wall. Where the young stock has to be raised from beds of bearing plants place the runners in alternate rows only, so as to leave room for gathering the crops. In all cases provision must be made for convenience in watering, as good plants cannot be had without plenty of moisture, and require daily attention in this respect. Many people use pieces of turf for rooting the runners in instead of pots of soil, and this system has several advantages over pots if the young stock is only required for planting out. It has one great drawback also: if the turf has not been stacked long enough to kill the roots of grass and weeds they will soon spring up after planting, and cannot be removed without greatly disturbing the plants. The pieces of turf should be at least 2 inches thick and 3 inches square. They are placed close together grass side downwards, and a small portion of the soil has to be removed with a trowel when laying the runner, the latter being fastened with a stone or peg. As soon as the runners are cut the turves, with the young plants, are planted intact in the new beds. Where good turf composed of light loam is easily obtained, this is a capital plan for raising young plants for outside purposes.

**APPLES AND PEARS.**—*Thinning the Fruit.*—Any trees that have set fruits too thickly may now be thinned, leaving the largest fruits and those that are most exposed to the sun and air. Young trees, especially those planted within the last two years, need close watching in this respect, and only one or two fruits should be left on these to prove if they are true to name. Cordon trees and any intended to grow fruit for exhibition must be well thinned. It is better to grow one fruit worth storing than to have three which are only large enough for the pigs. Be on the watch for red spider and aphids, and syringe with

Gishurst if any appears. Good fruit cannot be had without large healthy foliage. Give sewage liberally in dry weather wherever there is a good crop of fruit.

**GRAPE VINES.**—As these are growing freely stop all shoots two joints beyond the bunch unless they are required for next season's fruiting or for covering more space on the wall. In warm districts outdoor Grapes do well on the long rod system, training in four or five of the strongest shoots every year and growing them at full length during the summer, but in colder parts of the kingdom these long shoots do not ripen their wood, and the crop of fruit has to be obtained from the old wood year after year by spurring the young growth in closely. Outdoor Vines would in many instances succeed much better if the shoots were thinned out more during the summer in order to admit more sun and air to the remainder.

#### FRUIT FORCING.

**VINES.**—*Early Vines.*—Syringe those well from which the fruit has been cut to preserve the old foliage as long as possible in a healthy condition, for when the leaves fall early second growth not unfrequently sets in when they ought to be resting. A moderate extension of the laterals will usually prevent premature ripening of the foliage, and will not do any harm; but irregularities of growth and particularly gross ones, should be checked by pinching or be entirely removed. Admit air to the fullest possible extent, and maintain moderate moisture in the border, particularly at the surface, so as to keep the roots there instead of allowing it to become dry, and so causing them to descend in quest of moisture. Weakly Vines may have liquid manure occasionally, which will help the Vines to retain the foliage, and assist them in plumping the buds and storing the matter in the adjacent wood.

*Grapes Ripening.*—Directly the Grapes begin colouring afford plenty of air, a little fire heat being essential to the higher perfection of the fruit, especially as regards flavour, insuring a circulation of rather dry air, but a fair amount of atmospheric moisture is necessary for the swelling of the Grapes and preservation of the foliage in health. Allow the temperature to fall to 65° at night, otherwise securing a temperature by artificial means of 70° to 75°, and 80° to 85° through the day for Black Hamburgh and similar varieties with sun heat. Muscats should have a night temperature of 70°, 75°, to 80° by day from fire heat and 85° to 95° with sun heat. Inside borders require a thorough supply of water or liquid manure, enough to reach the drainage, and a light mulching will keep the surface moist, also preventing undue atmospheric moisture. Outside borders must be watered if the weather be dry, using the water or liquid manure in a tepid state.

*Grapes Stoning.*—Dull and cold weather is the worst possible for scorching and scalding. Early ventilation by allowing the moisture to evaporate and the atmosphere to gradually warm prevents scorching, and a gentle warmth in the hot-water pipes with a little ventilation at night and free ventilation by day are the best modes of avoiding scald. It is not desirable to close early at this critical period, but do so carefully; and as the liability to scald does not extend over a period of more than a fortnight to three weeks give particular attention to ventilation. In bright weather succeeding a dull and cold period there is most danger of scorching, and with the modern system of large panes of glass there is absolute necessity at such times of a slight shade from bright sun. A double thickness of herring nets over the roof lights is very beneficial, and affords all the shade required.

*Grapes Swelling.*—Maintain a genial condition of the atmosphere, securing it by a gentle heat in the hot-water pipes, and sprinkle available surfaces in the morning and afternoon, particularly the latter at closing time. Keep the border mulched with short, rather lumpy stable manure, not thick, a couple of inches sufficing, additions being made from time to time so as to secure a supply of ammonia to the atmosphere and nutriment for washing into the soil each time the borders are watered. The mulching should be kept moist, and where it is not convenient to add fresh horse droppings sprinkle the floors, borders, &c., occasionally in the evening with liquid manure. Urine diluted with six times its bulk of water, or guano, 1 lb. to 20 gallons of water, gives out sufficient ammonia for the health of the foliage, and it is inimical to red spider. Avoid a close atmosphere, particularly in dull wet weather. A little ventilation at the top of the house at night will make all safe, but it is desirable to close the house in the afternoon, damping well at the same time, allowing the temperature to rise to 90° or 95°, and after six o'clock provide a little ventilation at the top of the house, as it will prevent excessive deposition of moisture through the night, and the foliage will not be so nearly liable to scald should the sun act powerfully on it before the ventilation is increased, which it ought as soon as its rays act on the structure sufficiently to raise the temperature. Early morning ventilation is the best preventive of scorching. A night temperature of 65°, and a genial warmth of 70° to 75° by day, will be sufficient by artificial means to keep the Grapes steadily progressing in dull weather. Increase the ventilation between 70° and 75°, allowing it to advance to 80° or 85°, and close so as to raise it to 90° or 95°. Permit a steady growth in the laterals, but never allow large extensions which must afterwards be reduced. Avoid overcrowding, not allowing the laterals to interfere with the principal leaves, for upon the free access of light and air depend their elaborating power, and the more these assimilate the crude material the healthier the Vines are, and more food stored in the Vines for the succeeding year's crop. It also is essential to the formation of the coming Grapes in embryo in the buds.



Supply efficient waterings or liquid manure as required, or afford surface dressings, and water them in with tepid water after having made the border thoroughly moist. Outside borders must not be neglected, but have copious waterings where the rainfall is insufficient. Mulch the borders lightly—heavy mulchings do more harm than good. A little fresh stable manure, 1 to 2 inches thick, will lessen evaporation, and from its lumpy nature not deprive the soil of the beneficial action of air, warmth, and the moisture of dew and rain.

**CUCUMBERS.**—A few seeds may now be sown for late summer and early autumn fruiting. The plants from this sowing will be fit to place out in about a month. They do well in frames, and come in useful where plants from having been in bearing some time are exhausted. Plants in bearing must have attention in thinning exhausted growths, removing bad foliage, stopping, tying, and regulating the growths so as to keep up a succession of bearing wood. Add a little fresh soil to the surface from time to time, and light mulching of stimulating material. Syringe at closing time, and maintain a good moisture all day; it is infinitely better than shading. Avoid too much moisture in dull weather, it only makes the growths soft and the foliage more susceptible of injury on a bright period ensuing. Afford liquid manure copiously once or twice a week, according to circumstances. Close early at 85°, and so as to gain 5° to 10°, and only employ fire heat to prevent the temperature falling below 60° at night. Avoid overcropping, especially of young plants, and do not allow the fruit to hang too long, as these exhaust the plants and prevent in a great measure a good and continuous supply.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### SUPERING.

I HAVE as yet deferred putting on supers, but now that rain has come honey will be more abundant. The moment the flowers are profuse supers will be put on, and I am certain that all will be occupied by bees immediately they are in place. Bees never refuse to enter supers when given at the proper time. A little experience is required to be able to know the exact time; this is whenever the hive is full of bees and combs, and the latter filled with brood, honey, and pollen, but not before. The extra heat, when supers are being filled, prevents chilling of the brood.

The Stewarton system of supering is to put in the third box for a day or two, then take it away, putting the supers on at the same time. We used to regulate the slides according to the weather, giving good space when a honey flow was in, and when rain or non-honey weather came closing them all but a bee space. With the slides and the three boxes or divisions the bee-keeper has full control of his bees and supers, and the latter rarely contain brood, and in competition with supers on other systems have seldom if ever been beaten.

If a hive should at any time swarm do not put the bees back, but hive them into one division if the weather is fine with one cover of supers. These will be filled with beautifully white honey. At the end of eight days excise every royal cell except one good one from the old stock, but it is well that there be a spare nucleus at hand to insure against loss of queen. Premising the weather continues fine depose the queen of the first swarm, and on the following day return the swarm, its supers, and frames to the old stock, sprinkling both well with thinned honey. Never attempt to return swarms until the stock has been deprived of all its queens less one, or depending upon one from the returned swarm.

Never join two second or after swarms until there is only one queen, or very likely a swarm will issue, or, perhaps, all the bees will leave. Do not attempt to join an alien queen or queen cell to an old stock till after the laying queen has left eight days. No queen, whether caged or not, is safe till that time has expired, but after that a queen may be given at any time without any precaution whatever; but in all cases where a valuable queen has to be introduced use a cage. My safety cage, now used for nearly thirty years, is placed upon the top of the hive, and is nearly two cages of perforated zinc an eighth of an inch apart, so as to prevent the bees injuring the queen, but allowing them to fraternise. Modern bee-keepers have not yet used the double cage.—A. L. B. K.

## FOREIGN BEES.

### METHODS OF CONTROVERSY.

WE are requested to publish the following letters, and have no hesitation in doing so under the circumstances, though possibly Mr. Russell's reply to "Expert" may yet appear in the pages of our contemporary to which it was addressed.

#### MR. RUSSELL'S FIRST LETTER (PUBLISHED).

Some time ago reference was made by "A Lanarkshire Bee-keeper" in the pages of the *Journal of Horticulture* to the condemnation of foreign bees by "Expert" in a contemporary. "A. L. B. K." suggested, as I was the person who sent him the cutting, that I should write to the Editor of the said contemporary, asking what experience "Expert" had with the foreign bees he had condemned. I did so, and enclose you a copy of "Expert's" reply, which appeared in the journal referred to. I wrote a rejoinder, but this the Editor has not published. I should feel obliged if you would publish it, as well the copy of "Expert's" letter, both of which I enclose.—C. RUSSELL, *Ingmire Hall*.

#### "EXPERT'S" REPLY (PUBLISHED).

In reply to Mr. C. Russell, will he kindly mention with what particular statement as to the Ligurian, Carniolian, or Cyprian races he disagrees, and in what way the Punic race has proved so valuable? My experience, as given, is borne out by most of our advanced bee-keepers, and opinions have long been inclining in favour of our native bee, as being best constituted for our variable climate, more controllable as regards swarming, and giving the largest and best yields of honey. I have not kept Punic bees, but this race come from a district bordering on the Sahara Desert, and I fail to see how they can be suitable to our comparatively cold climate. They are said also to gather a great deal of propolis, or anything sticky, as a substitute, which is very objectionable, and like other foreign races to be great breeders, another objection, as after all it is honey, not bees, that we want.—EXPERT.

#### MR. RUSSELL'S REJOINDER (UNPUBLISHED).

Your correspondent "Expert" entirely evades my question, and I assume he is either unable or unwilling to give a clear answer. I read for information, and I am sure most people will agree with me that this should come from experienced persons. Now, according to "Expert's" own showing, what he teaches is second-hand. It is a fact that out of every hundred bee-keepers not more than five condemn foreign bees, and this small percentage when investigated was found to either have had no actual experience with them or had not managed them properly. I am willing if desired to mention a few names of persons who know how to manage foreign bees, and have had great success with them, not only in this country but throughout the continent and America. What does your correspondent mean by "They are said also to gather a great deal of propolis or anything sticky as a substitute?" As a substitute for what? He is quite right, the Punic bees are great breeders, and are as great honey gatherers, but "Expert" is entirely wrong in saying they are tender; they are very hardy bees. I have no interest in the sale of bees or bee appliances. The following extract from a letter from a friend is to the point and is reliable, and he like myself has no interest in selling the bees.

"The season has indeed been untoward and protracted, yet notwithstanding all my hives are in a forward state, Carniolians, Syrians, Cyprian crosses, Ligurian, and Punic; the latter are a treat to see working. They gather honey when other varieties do not, and are pretty builders and fillers of comb. Superior as the other races are over the old blacks, these Punic bees are superior to those mentioned above. Their great hardiness alone for such cold springs as we have had for some years past is sufficient to recommend them."

I would like to hear how "Expert" can control swarming with the old black bees more than with the other varieties, and, moreover, would like to learn where the pure black bee is to be had in Britain. Queens mate at a distance (bee-flight) of five or six miles, and where is there a place the black bee is isolated more than that from the influence of the superior foreign but much-maligned good honey gathering bees. Stick to your own experience, and give us reliable information, which all desire.—C. RUSSELL.

[We cannot understand why this letter is not published, and are loth to believe it will not be published in the contemporary to which it was addressed. It is a very proper letter under the circumstances, and was called for by the one preceding it. It is in our opinion the best letter of the series, practical and precise, in which the writer has obviously no motive but to elicit the truth.—ED. J. H.]





All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Tobacco** (*A Constant Reader*).—Kindly oblige with your name and address, not for publication, but in accordance with the rule that relates to the answering of such questions.

**Currant Bud Insects** (*W. K.*).—We are obliged by the two boxes of specimens, which shall be carefully examined by our entomologist, and replies given as soon as practicable.

**Vine Weevils—Apple Scab** (*G. A.*).—Thanks, the word "scale" in the seventh line from the bottom of the second column, page 504, ought to have been "scab," and obviously the weevils referred to were *Otiorhynchus*, but the writer omitted to say so.

**Royal Horticultural Society's Meetings** (*G. G.*).—The next meeting of the Committees will be held at Chiswick in connection with the conferences on hardy summer flowers on the 7th inst., and on various bush and small fruits on the 8th. You had better write to Mr. A. F. Barron, R.H.S. Gardens, Chiswick, London, indicating the produce you intend sending, and he will give you all requisite instructions.

**Vinery Boiler** (*M. R.*).—With one house started in February and the other a month later, it seems difficult to fix upon a time for alterations. If the weather prove cold and wet fire heat may be necessary when the Grapes are ripening, and we presume the work cannot be postponed until the Vines are at rest on account of plants needing protection from frost; therefore we should say the repairs would be best done whilst least fire heat is necessary, that is, during July and August.

**Melons Flavourless** (*Devonia*).—Sandy soil is not suitable for Melons, as in such they are apt to produce their foliage liable to be injured by scorching or insects, and then well-flavoured fruits are out of the question. The foliage must be substantial and clean, and the plants not overcropped. The atmosphere should also be drier during the ripening period than is good for the free growth of Cucumbers. The work you refer to will be issued in the autumn in future.

**Decayed Mushroom** (*D. W.*).—A crushed mass of offensive putrefaction reached us not fit to be sent through the post. The letter was so saturated that it could not be read. We suspect your Mushrooms are attacked by a fungus, *Aspergillus glaucus*, which is referred to on pages 94 and 133 in the sixth edition of "Mushrooms for the Million." If you possess the work (1s. 2d., post free, from this office) you can see what is said about this and other fungoid enemies which occasionally attack Mushrooms and speedily ruin them.

**Dividing Pyrethrums in Autumn** (*S. S.*).—February and March, as the weather is favourable, are the best time for increasing the stock by division. The operation may be performed in autumn, choosing moist weather at the end of September or early in October. Stools of four years' growth may be divided into three or more pieces according to their size and facility of cutting up, so as to preserve some roots and crowns with good buds to each. The divisions are preferably placed in pots sufficiently large to hold the roots comfortably, with a little soil around. Plunge the pots in ashes to the rim and keep the soil moist, but not very wet. Too much air cannot be admitted in favourable weather, planting out in spring. The divisions may be planted where they are to remain, using fine soil, and firming it about the roots, watering to settle it about them, and taking due safeguards against slugs.

**Morels and Jew's Ears** (*F. C., Alresford*).—Morels are called Jew's Ears in Yorkshire as stated by Dr. Badham, and it was in an extract from his work that the popular term was given. As generally accepted the fanciful reference applies to another fungus, *Hirneola* or *Exidia*, which is cup-shaped and grows on Elder trees, also but less freely on Elms. The specimen you send is so small and was so much shrivelled that it cannot possibly be identified. It bears some resemblance to a Morel, but we are not sure it is one, and we cannot venture to suggest that any fungus may be eaten unless we are certain of its identity. If you can send fair typical specimens packed in freshly gathered green, but not wet, grass they will probably arrive in good condition for determining what they are and whether they may be safely eaten or not. You might also indicate the position where they grow.

**Young Apple and Pear Trees Unfruitful** (*A. B., India*).—When young Apple and Pear trees blossom profusely, but set no fruit, and frost or excessive wet is not the cause, the reason is generally over-effort at fruit production, an excess of blossom buds forming which from lack of nourishment are imperfectly developed. In this case the only remedy is to thin the buds freely before the blossoms expand, leaving the strongest and most promising, affording liquid manure or surface dressings in winter, with mulching and proper supplies of water in summer. We cannot answer your other questions at present, but will see if we can procure the information. We do not, however, recommend foreign nurserymen through these columns.

**Hydrangeas** (*G. C.*).—No doubt you have cultivated your plants in a satisfactory manner, except in keeping them "very dry"—that is unnecessary. They may with advantage be kept moderately dry, but in no stage of growth should the soil ever be entirely destitute of moisture. Whatever treatment you may give your plants it will never alter their character. Your only chance is to throw them away and start again with fresh plants. Sometimes plants that have produced bold large trusses for years will occasionally throw one similar to the one you sent us. When this occurs we throw them away at once, as they cannot be relied upon to produce ordinary blooms afterwards. All varieties of Hydrangeas have the same peculiarity, especially the variegated form of *H. hortensis*, but we had never seen the variety of Thomas Hogg in this abnormal state before, although we have grown thousands. It is not so useful nor so beautiful as well-grown examples of the old *H. hortensis*, which yields enormous trusses, varying from pink to blue.

**Insects on Alder** (*J. McD.*).—The small caterpillar that traverses the leaves, bearing upon its back a case or "cigar" of its own construction, ingeniously cut from the under surface, is the larva of a tiny moth called *Coleophora alnivorella*. Having completed its growth, the little creature closes up the case and shortly after appears as a moth; it is seldom common enough to disfigure the Alder to any extent. No. 2, the insect resembling the Aphis in some things, and the *Cecropis*, or "cuckoo spit" in others, is a *Psylla*, probably the species *P. Alni*, but they are, like the Aphides, difficult to identify; it may be at once distinguished from the Aphis group by its breadth of thorax and its powers of leaping. Their multiplication is not so rapid as that of the Aphides. No. 3 is a species of *Chermes*, allied to the familiar American blight, and also akin to the *Coccus* or scale group, the young brood being enveloped in a woolly secretion.

**Carnations and Picotees** (*Picotee*).—You appear to be going on with your Picotees quite judiciously. Be careful not to overdo them with liquid manure, as with the surfacing already applied you may produce coarse blooms. Give sufficient water in dry weather, especially if your soil is light in texture. No doubt some varieties produce fewer side growths than others, but even in this much depends on cultivation. Layer early, and plant early in the autumn, when you will see a great improvement all round. Picotees are perfectly hardy. It ought to have been noted that size of bloom without coarseness is secured by thinning out the buds, also a shading of tiffany or other light material you will find an absolute necessity to secure clean flowers and pure markings. Old glazed sashes blurred with whitening and supported high above the plants not to touch the blooms is an excellent and easy method of gaining these ends. We wish you every success.

**Strawberries by Post** (*F. A. G., Taunton*).—It is very seldom indeed that Strawberries sent by post arrive in sufficiently good condition to be named, and never except the fruits are gathered before they are fully ripe and each placed in a separate leaf and the whole sent in a tin or wooden box, so that they can neither be injured by shaking nor crushing. Yours simply placed in a chip match box resembled a mass of jam more than anything else. The best way to obtain the names of Strawberries is either to take fruits to an exhibition at which prizes are offered for Strawberries, and there gather the information, or to a nursery or private garden in which many varieties are grown. We can only identify varieties when the fruits arrive in the same condition as when they were gathered, and accompanied with foliage from the plants. It is desirable also that the habits of these be stated, and whether the varieties are early, mid-season, or late.

**Strawberries** (*H. S.*).—Auguste Nicaise Strawberry is a much paler, also a firmer, fruit than Noble, and is of better quality, though not, we think, so early, nor is it so free and fruitful in all soils, though in some it succeeds admirably. Noble has never been described by us of more than second rate quality, but the fruit is so fine and early that good crops are highly profitable for market purposes. We have seen large quantities "look well" enough in the London market to sell at 2s. a pound, but they were sent there by persons who have learned how to gather them carefully before being over-ripe and to pack them well. If the remarks to which you refer are those of Mr. T. Sharpe they are worthy of your attention. His success in Strawberry culture in a field of sand is remarkable. His practice is based on the principle of testing a number of varieties and increasing those the most freely which succeed the best with him and realise the most money. Strawberries are notoriously capricious. Marguerite, which bears fine fruit so abundantly with Mr. Sharpe, is not worth the ground it occupies in some gardens. Alice Maud, mentioned by him, is generally more reliable, but not in all soils the most profitable. In some land those rich and fine varieties, British Queen and Dr. Hogg, grow and bear abundantly, but in many gardens they are among the least thrifty and productive. At Chiswick Sir Charles Napier is much more profitable than Sir Joseph Paxton, but



this is by no means the experience of the majority of cultivators, and probably ten times more of the latter are grown than the former. Mr. Lovel is a good authority on Strawberries for market. Our experience with John Ruskin is too limited for us to speak decisively on its merits.

**Packing Grapes and Flowers (T. C.).**—We have found tin boxes excellent for sending both fruit and flowers by post, separately, the boxes in each case to be firmly filled, so that the contents are immovable. Flowers should be cut young, either at night, and placed in water, or early in the morning before the petals become flaccid. The box may be slightly damped, and the heaviest flowers should be placed at the bottom, the lighter above them. These may be covered with Ferns previously dipped in water, then shaken out, or other soft greenery, and pressed firmly down with the lid. For Grapes the boxes must be dry. A layer of springy moss may be placed at the bottom, this to be covered with tissue paper, which should also reach up the sides and well above the top. The boxes should be a little slanted when filled, one end resting on a table, the other held up, and each bunch placed point downward, and affixed in position so that the stalk reaches a little above the top. Judgment should be exercised in placing the bunches in the right positions at the first, not shifting them in and out, and when all are in they should wedge each other. To render them still more rigid a little wadding may, if necessary, be forced down here and there between the paper and the box, the paper then drawn over and the lid placed on, gently pressing down the stems. We have tried all sorts of packing for surrounding the berries, but find that good Grapes, rightly placed in the boxes, come out of them in better condition when they simply press against each other. Thin-skinned loose bunches of ill-grown Grapes cannot by any method of packing be sent through the post to reach their destination in a satisfactory state.

**Black Currant Buds Destroyed (W. K.).**—We are in receipt of the specimens of the insect to which you attribute so much mischief. Those first sent were certainly in the pupal condition; the second lot, in the winged state, prove that the enemy is a small two-winged fly, it is a species of Phora. (Its exact identification, however, would require the examination of a large number of specimens, as the species are very like each other.) This belongs to a group of very varied habit, some of them are useful, others, as well as the present species, are infesters of buds; examples of them have been found on the Rose and Cherry, in the one case ruining the flower, in the other stopping the development of the fruit. Each bud apparently forms the home of one grub, and since the flies are emerging now, it is probable there is a second brood, which follows the habits of the spring brood, and from which flies doubtless emerge during the autumn. It may be suspected that these latter hibernate, hiding in nooks and corners, then appearing in April, they deposit eggs on the young buds. We almost fear that this is one of those foes with which little can be done; it is impossible to operate upon the grubs buried in the buds, nor could the minute eggs be detected. Of course all infected shoots should at once be removed and burnt. The only measure that could be tried would be spraying or washing the bushes with something that might disgust the flies, and drive them off at the egg-laying season, such as a solution of Fir tree oil, petroleum, or decoction of hellebore; but it has been noticed that flies of this group, although so small, are remarkably hardy. All the damage complained of is not traceable to this fly, we should state, for some of the buds show signs of the presence of the Black Currant mite (*Phytoptus ribis*).

**Destroying Woodlice (M. H. N.).**—Toads and pieces of cut Potato are excellent means of destroying woodlice, but where they "swarm" more wholesale means must be employed. Woodlice most frequent leaves, tan, old boards, and other decaying organic matter, secreting themselves in any cracks of the soil, by walls, or anywhere in moist places, and near their food plants. These habits have been taken advantage of for their destruction. The old-fashioned trap of boiled Potato wrapped loosely in a little hay and placed in a small flower-pot laid on its side in their haunts captures a good many, the baits being examined every morning, and the woodlice shaken out into boiling water. Placing a little hay by the side of walls upon the beds or borders, sprinkling over it a little scalded oatmeal or bits of boiled Potato, and over these scattering a little hay entices the woodlice, and pouring boiling water on the hay through a rose watering can in the morning soon destroys the insects. If the water is not used in greater quantity than to wet the hay, no damage is done to the roots of Cucumber or Melons, and very little, if any, to Mushrooms. Old tan serves equally well if placed on a narrow board at the side of the bed near the wall, especially when mixed with a little boiled Potato, bread crumbs, scalded oatmeal, or pieces of raw Potato, Carrot, Beet, or Mangold Wurtzel, baiting for a few days to attract the woodlice, and then scald them with boiling water. Two pieces of old board placed one over the other, a small stone on one side keeping them about half an inch apart, and scattering a little boiled Potato on the board and over it a little hay, covering with the top board so as to lie rather loosely, answer admirably. Boards of about 2 feet length and 11 inches wide serve the purpose well, or slates may be used, and in the morning remove the boards and scatter the contents in front of fowls. This if repeated a few times will soon clear the worst infected houses or frames, and there is no danger of interfering with the roots. Old boards form a trap that no woodlice can resist, and their use in Mushroom houses and elsewhere are attended with excellent results. Indeed, houses can be cleared rapidly and completely by that means without any injury to the beds of Mushrooms or the roots of Cucumbers and Melons.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (D.).—*Chrysanthemum leucanthemum*, the Ox-eye Daisy. (T. S.).—1, *Epidendrum vitellinum*; 2, *Odontoglossum crispum*; 3, *Oncidium macranthum*. (W. W.).—1, *Onychium japonicum*; 2, *Asplenium Adiantum-nigrum*; 3, *Adiantum Capillus-Veneris*; 4, *Adiantum reniforme*. (B. W.). 1, *Acalypha Macafeana*; 2, *Francoa sonchifolia*; 3, Insufficient without flowers; 4, *Periploca græca*. (C. D.).—*Buddleia globosa*.

#### COVENT GARDEN MARKET.—JULY 1ST.

Business brisker, with good supplies. Prices generally unaltered, excepting Peaches, which are lower.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Tasmanian, case	6	0	to	14	0	Oranges, per 100 .. ..	4	0	to 9 0
Grapes, per lb. . . . .	2	0		3	6	Peaches, per doz. . . .	3	0	1 0
Kentish Cobs .. .. .	40	0		50	0	St. Michael Pines, each..	3	0	8 0
Lemons, case .. .. .	15	0		20	0	Strawberries, per lb. . .	0	6	1 6

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Asparagus, per bundle ..	0	6	to	2	6	Mushrooms, punnet ..	0	8	to	0	10
Beans, Kidney, per lb. ..	0	9		1	0	Mustard & Cress, punnet ..	0	2		0	0
Beet, Red, dozen ..	1	0		0	0	Onions, bushel. . . .	5	0		6	6
Cabbage, dozen ..	3	0		0	0	Parsley, dozen bunches	2	0		3	0
Carrots, bunch ..	0	4		0	0	Parsnips, dozen ..	1	0		0	0
Cauliflowers, dozen..	3	0		6	0	Potatoes, per cwt. ..	3	0		4	0
Celery, bundle ..	1	0		1	8	Rhubarb, bundle ..	0	2		0	3
Coleworts, doz. bunches	2	0		4	0	Salsafy, bundle ..	1	0		1	6
Cucumbers, doz. ..	1	6		4	0	Scorzonera, bundle ..	1	6		0	0
Endive, dozen ..	1	3		1	6	Shallots, per lb. ..	0	3		0	0
Herbs, bunch ..	0	2		0	0	Spinach, bushel ..	5	0		6	0
Leeks, bunch ..	0	2		0	0	Tomatoes, per lb. ..	0	6		0	8
Lettuce, dozen ..	1	0		1	3	Turnips, bunch ..	0	0		0	4

#### AVERAGE WHOLESALE PRICES.—JULY FLOWERS.

Orchid Blooms very good, rather plentiful.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	0	Mimosa (French), per bunch .. .. .	1	3	to 1 6
Bluebells, dozen bunches	1	0		2	0	Myosotis, dozen bunches	2	0	4 0
Bouvardias, bunch ..	6	0		1	0	Pæonies, dozen bunches	6	0	13 0
Carnations, 12 blooms ..	1	0		2	0	Pansies, dozen bunches..	1	0	2 0
Cornflower, doz. bunches.. .. .	2	0		4	0	Pelargoniums, 12 bunches	4	0	9 0
Eucharis, dozen .. ..	3	0		6	0	"    scarlet, 12 bnchs	3	0	6 0
Gardenias, per doz. ..	1	0		3	0	Pink (various) doz. bnchs.	2	0	4 0
Gladiolus (white), dozen bunches .. .. .	6	0	12	0	Primula (double) 12 sprays	0	8	1 0	
Iris (Various) doz. bnchs.	4	0		8	0	Pyrethrum, doz. bunches	2	0	6 0
Lapageria, 12 blooms ..	2	0		4	0	Ranunculus, doz. bnchs.	2	0	4 0
Lilac (French) per bunch	5	0		6	0	Roses (indoor), dozen ..	0	6	1 6
Lilium longiflorum, 12 blooms .. .. .	3	0		4	0	"    (mixed), doz. bnchs.	2	0	6 0
Lilium (various) dozen blooms .. .. .	1	0		3	0	"    Red (English) per dozen blooms ..	1	0	2 0
Maidenhair Fern, dozen bunches .. .. .	4	0		9	0	"    Red, 12 bls. (Frch.)	0	6	1 0
Marguerites, 12 bunches	2	0		4	0	"    Tea, white, dozen..	1	0	2 0
Mignonette, 12 bunches..	3	0		6	0	"    Yellow, dozen ..	2	0	4 0
						Spiræa, per bunch ..	0	6	0 9
						Sweet Peas, doz. bunches	3	0	6 0
						Sweet Sultan, doz. bnchs.	3	0	5 0
						Tuberose, 12 blooms ..	0	6	1 0

#### PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralia Sieboldi, dozen ..	6	0	to	18	0	Heliotrope, per doz. ..	4	0	to 8 0
Arbor Vitæ (golden) doz.	6	0		8	0	Hydrangeas, per doz. ..	9	0	12 0
Arum Lilies, per doz. ..	9	0		12	0	Lilium longiflorum, per			
Begonias (varicus), per						dozen .. .. .	18	0	30 0
dozen .. .. .	6	0		18	0	Lobelia, per doz. ..	4	0	6 0
Calceolarias, per dozen ..	5	0		9	0	Marguerite Daisy, dozen	6	0	12 0
Coleus (various), per doz.	3	0		9	0	Mignonette, per dozen ..	4	0	9 0
Dracæna terminalis, doz.	24	0		42	0	Musk, per doz. .. ..	2	0	4 0
„ viridis, dozen ..	12	0		24	0	Myrtles, dozen .. ..	6	0	12 0
Erica, various, dozen ..	12	0		24	0	Palms, in var., each. ..	2	6	21 0
Euonymus, var., dozen ..	6	0		18	0	Pelargoniums, per doz. ..	6	0	15 0
Evergreens, in var., dozen	6	0		24	0	Pelargoniums, scarlet, per			
Fairy Roses, per doz. ..	6	0		9	0	dozen .. .. .	3	0	6 0
Ferns, in variety, dozen..	4	0		18	0	Saxifraga pyramidalis, per			
Ficus elastica, each..	1	6		7	0	doz. .... .	12	0	13 0
Foliage plants, var., each	2	0		10	0	Spiræa, per doz. .. ..	8	0	12 0
Fuchsia, per doz. ....	6	0		12	0	Stocks, per dozen .. ..	4	0	6 0
Geraniums, Ivy, per doz.	4	0		6	0	Tropeolums, per dozen ..	3	0	6 0

Bedding plants (in variety) in boxes, from 1s. to 3s.; in pots, per doz., 1s. to 2s.



#### SMALL FARMS.

It is undoubtedly a want of business aptitude, of keen foresight, of ability to meet a crisis, that not unfrequently tends to cripple the small farmer. The example given last week of an overstocked farm simply because prices had fallen is an instance



of this that should not be passed over lightly. Early maturity of all fat stock and a prompt and timely disposal of all surplus store stock must be insisted upon. Keep well within bounds as to numbers, and see that your stock are of the best. We also strongly advise small farmers to keep out of parish business as much as possible. There is a common craving for posts which bring a man into prominence, and which give him a voice in parochial matters. This is all well and good if he has time to spare for it, but otherwise he is far better without it.

Another mistake which has come under our notice is a tendency of small farmers to copy the practice in force on large farms. Nothing can be attended with more risk than such a course, and we have repeatedly pointed out the evil result of such a mistaken idea. The small farmer must look closely into trifles, and turn every foot of space and every handful of produce to best account. If he has his wits about him he is keen to grasp any special local want and to make special efforts to supply it. It is entirely worth his while to cultivate the earliest Peas for "podders," the earliest Potatoes, and to give some space to a few of the best sorts of fruit. If he can manage to have a few roods of ripe Strawberries while the bulk of that crop is still green he is certain to obtain a ready and profitable market. When ripe Strawberries are being sent off from the local stations at the rate of 50 tons daily he is practically out of it, as indeed he ought to be, for his Strawberry season is over before the glut of fruit is upon the market. Then, again, in planting fruit trees his aim should be the best early and late sorts for which he may fairly expect a profitable sale. We do not advise any rash launching out into fruit culture, but we do and must insist upon the necessity which exists for a radical change in fruit culture by farmers. It presents no insuperable difficulty, and if space is given up to fruit at all pray let it be turned to good account, and not be as hitherto a standing reproach to both landlord and tenant.

Turning now to *la petite culture* of the Continent, we agree with Mr. Clare Sewell Read that it is not desirable that our small farmers should conform still more closely to the model of the Continental peasant, and live and work still harder than he does now. He says well that there is much to admire in the thrift, the self-denial, and the industry of the Continental peasantry, and there may be something to learn from their better manipulation of their small products; but to recommend to a race of hard-working Englishmen a life of grinding poverty is not likely to prove attractive to the individual or beneficial to the community.

Take for example the existing state of things in France. The land which the peasant occupies is generally his own; there are some 8,000,000 landowners, of whom more than 3,000,000 are exempt from taxation from actual poverty. These peasants are worse housed and worse fed than our labourers. Their cottage is generally of one room, having a mud floor, where they and their families herd together in a most filthy bestial fashion. Excessive and prolonged toil is their daily lot, women and children are all constantly employed with the men from early morn till dewy eve, when they turn into their hovels worn out with toil. Yet with all this two English acres yield as much produce as three French, and the superiority of the French lies in their greater business acuteness. The French peasant makes from £20 to £25 a year out of the butter of each cow, and be it remembered the cow has often to take its share of work upon the land. It is quite certain that much improvement is possible both in the breed and yield of British cows generally, even with our well-known superiority in farm produce generally. It is claimed that the British Isles produce more food for cattle than the whole of France with twice the extent, and that England alone produces four times as much meat, milk, and wool as France, which is solely attributable to superior cultivation. Well will it be if we continue to maintain the superiority of our small farmers, and not suffer them to sink down to the level of the French peasant.

### WORK ON THE HOME FARM.

With fair settled weather and a full grass crop haymaking is likely to predominate largely over ensilage this season. Mowing will begin when the grasses are in full bloom, for then the herbage is at its best for hay. Let this be clearly understood, for there is still an erroneous popular impression that the best hay has the seed in it. The best hay is that which is made before there is any actual development of seed, because seed development robs the herbage of much of its most valuable food properties. With the flowering of the grasses full growth has come, and there is no reason for waiting any longer for the mowing.

Sun and wind soon make good hay, and the labour involved in the making is comparatively trifling to what it is in unsettled weather. Let the tedding machine follow the mower closely, and then with a free use of horse rakes the hay ought to be turned and got together at a cheap rate. The chief thing is full exposure to sun and wind with judicious cocking to guard against damage by rain. Do not cart to the rick till the hay is quite ready, or there will be serious risk from overheating. For stacks of from 20 to 30 tons we invariably use a sack stuffed with straw, drawn upwards in the middle of the stack as the building goes on, so as to form a passage for the escape of heat quickly, to facilitate which the sack is withdrawn altogether each night during the building of the stack.

Clover and Sainfoin, as well as mixed seeds, have already been mown for hay or stover. For this class of forage the tedding machine is not used, but after the mowing it is left to wither in the swathes, and is then turned over gently for the under side of the swathe to wither, when it is ready for carting to the rick. The reason for this difference in the making is that the large tender foliage of the Clovers will not bear the rough process of ordinary haymaking, as the foliage would become battered to pieces and the forage would lose much of its goodness.

Some of the first crop of Clover has been folded with sheep in view of sowing seed from the second crop. More caution than usual has been necessary in this folding owing to the very succulent growth of the Clover and the risk of sheep becoming "blown" from overfeeding.

### OUR LETTER BOX.

**Diseased Cow (D. E).**—An examination of the animal by a veterinary surgeon is the only course we can advise in this case. Mr. R. Dean, Ranelagh Road, Ealing, London, can give you authoritative information on the other subject. When writing him enclose a stamped directed envelope for his reply.

**Poor Pasture (Cestrian).**—It would be quite useless applying chemical manure now while the weather continues dry. Your only chance for this season is to procure enough nitrate of soda to afford a dressing of a hundredweight per acre, and to sow it broadcast over the pasture in showery weather. It would then be dissolved and washed into the soil sufficiently to induce growth. Then when you have a fair bite of grass, if you can procure some sheep and fold them upon in small folds, using as many hurdles for each fold as there are sheep, feeding the sheep well with cake and corn, and making a fresh fold daily, you will thus store the soil with a fair amount of fertility by November, when all stock should be withdrawn from it. Next February apply a dressing of chemical manure, consisting per acre of 1 cwt. nitrate of soda, half-cwt. muriate of potash, half-cwt. mineral superphosphate, and half-cwt. steamed bone flour, procured separately from a reliable source, and mixed under your own supervision. You may then reasonably expect a fair crop of grass, but the pasture will not be really first class for a couple of years. By using the chemical manure annually in February it is quite certain to become so in due course, and you will be well repaid for your outlay. You will understand success this season depends entirely upon favourable weather for our scheme.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain
1891. June.	Barometer at 32° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
		Dry.	Wet.			Max.	Min.	In sun.	On grass		
Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.		
Sunday ..... 21	30.292	69.5	54.8	N.E.	62.9	74.2	51.4	121.6	50.0	—	
Monday ..... 22	30.115	65.1	59.8	N.E.	63.6	79.0	54.7	125.9	55.2	0.322	
Tuesday .... 23	29.969	58.7	57.2	E.	63.1	69.0	56.3	101.3	56.3	0.020	
Wednesday .. 24	29.916	68.8	64.0	E.	61.0	74.9	57.3	108.2	56.3	0.033	
Thursday .... 25	29.846	66.9	63.7	N.E.	61.7	74.7	61.1	105.9	57.6	—	
Friday ..... 26	29.838	68.4	61.3	S.	61.9	75.8	57.1	125.6	54.6	—	
Saturday .... 27	29.904	66.5	58.5	S.W.	62.2	72.7	57.6	123.6	53.2	—	
	29.984	65.0	59.9		62.3	74.3	56.5	115.7	54.8	0.375	

### REMARKS.

21st.—Bright and fine throughout.  
 22nd.—Bright, warm, morning, clouded over at noon, shower at 1.30 P.M., and continuous rain after 6 P.M.  
 23rd.—Wet early and drizzly till 11 A.M., then cloudy and a slight shower at 2.20 P.M., a little sun in afternoon, damp drizzly evening.  
 24th.—Fine and generally bright in morning, slight thunderstorm from 1.15 to 2 P.M., and generally threatening after, lightning at night.  
 25th.—Wet till 8.30 A.M., humid and oppressive in morning, thunder from 1.50 to 3 P.M., fair evening, distant lightning at night.  
 26th.—Fine and pleasant but cloudy at times.  
 27th.—Bright and breezy.  
 A generally fine week, with distant thunder on several occasions.—J. J. SYMONS.





## HARDY FLOWER NOTES.

THE protracted period of dry weather through which we have been passing has happily come to a close, and the flowers are now experiencing the cool and moist atmospheric conditions so favourable to hardy plants. A few days ago we were almost in dismay at the prospect of a season even more disastrous on this light soil than that of 1887. Now, although the rain has only penetrated a short distance, all looks favourable, although traces of suffering are still apparent in withered leaves and wholesale loss of lower stem leaves. But as Longfellow says, "Let the dead past bury its dead," and let us rejoice in the brightness of the present and the hopes of the future, and enjoy the feast of beauty so amply spread before us. Stately Delphiniums, among the noblest of our hardy flowers; Pyrethrums, triumphs of the florist's art; glowing Eastern Poppies lighting up the garden with their splendid flowers. Well may Eliza Cook sing:—

"The Poppy with its flaming breast,  
Outshines the crimson of the west."

Tall Lupins with fine spikes of white or blue or blue and white; golden Day Lilies, fragrant Pinks, and many others welcome the opening days of July. Roses, too, and stately Lilies come forward like very sirens to lead their respective claims to the proud title of "Queen of Flowers;" a title which for long years has, by universal acclamation, been awarded to one or other. I am by no means certain that the popular opinion of the day is not decisive in favour of the claims of one of the aspirants; but there are, I should say, many who agree with Cowper in his lines in which Flora is made to say:—

"Yours is, she said, the nobler hue,  
And yours the statelier mien,  
And till a third surpasses you  
Let each be deemed a queen."

(*The Lily and the Rose*, v. 6.)

If the rosarians will forgive the suggestion, Cowper seems to have had a partiality for the Lily, as one of the stanzas of the same poem attributes to the Rose conduct hardly compatible with the calm dignity generally associated with the regal authority. There are, however, so many things to note, not only in my own garden, but in several others I visited last week, that the enticing byways of flower lore must not be entered upon at length.

At this season the Dianthus present many beauties to notice, and they are well represented in this district. I do not think anything can be finer than a good plant of *D. alpinus*, some good specimens I saw being particularly fine, the foliage extremely healthy, and the deep rosy flowers, only about 2 inches high, being very large and fine. Rather inferior, but still well worth growing, is *D. neglectus*, of somewhat similar appearance, but with smaller flowers. A notable instance of that horror of the purchaser of plants was to be seen alongside of the fine plant of *D. neglectus*. This was a plant purchased under the same name, but which was evidently incorrect, the flower being opening, white, and the foliage quite distinct. This sending out plants not true to name is a great disappointment to growers, and is in the end a source of loss to the vendor. I have many times experienced it, and unless one is thoroughly well acquainted with the flower it sometimes leads to its being passed on from one to another. Some of my friends are at present greatly exercised over Campanulas *G. F. Wilson* and *Raineri*. There are in commerce

two under the name of *G. F. Wilson*, and two under the name of *Raineri vera*. One of my friends contends that what is sometimes sold as *G. F. Wilson* is *Raineri vera*, while another is equally confident that he possesses both plants true. I hope in the course of the season to be able to get the dispute authoritatively settled. Bearing upon this question of plants being sent out with wrong names, I have had *Silene Schafta* sent from two different nurserymen as *Lychnis Lagascae*, and I understand this is by no means an uncommon practice. This season I had *Gypsophila prostrata* sent me for *G. cerastioides*, and from another quarter *Alyssum saxatile* for *A. montanum*. I would urge upon nurserymen the necessity and, from a business point of view, the wisdom, of verifying the names of their plants. To return, however, to the Dianthus. One species with which I was particularly pleased was *D. nitidus*, or at least what was grown under this name. This is a neat plant with grassy leaves and pretty pink flowers with a darker centre. The flowers are finely fringed. If this is the plant named in the "Cottage Gardeners' Dictionary," which is, however, described as "red," it is a native of Carpathia, and was introduced in 1822. The popular name of the Shining Pink is quite applicable to *D. nitidus*, from the glistening appearance of the petals. Near this in the same garden was *D. cruentus*, the Blood-scarlet Pink, with smooth, acute, linear-lanceolate leaves, and slender stems growing about a foot in height, and fine blood scarlet flowers, a considerable number of these being arranged in somewhat globular heads. The native country of this species is said to be unknown. Several other Pinks are now in bloom or about to flower, but those I have named are among the best at present, and lead one to appreciate the name given by Linnaeus of *Dianthus* (Divine Flower) from *Dios*, divine, and *anthos* a flower. A beautiful little Alpine, which I had long wished to see in flower, was beautifully in bloom. This was *Stachys corsica*, which was familiar to me from the illustration and description given by Wooster. I am bound to say, however, that the illustration does but scant justice to the flower if it always grows as well as where I saw it. The plant figured in Wooster's "Alpine Plants" was the variety with pinkish white flowers, and was drawn from a plant sent by the late Mr. Niven of Hull. The one I saw recently was the variety with creamy coloured flowers, and was almost entirely covered with its pretty little labiate flowers just rising above the foliage. The plant only grows to about 6 inches in height, and is a very desirable one for the rock garden or the front of the border. As one would imply from the specific name, *S. corsica* is a native of Corsica, whence it was introduced in 1823.

Whether in or out of flower the *Sempervivums* are always interesting. The exquisite rosettes of *S. arachnoideum* or *S. Laggeri* with their beautiful cobweb-like covering of tomentum are always attractive, and some of the dark coloured varieties such as *S. triste* are very fine also. Perhaps the finest is *S. violaceum*, which grows to a large size and possesses tints difficult to describe. The specific name *violaceum* gives no idea of the rich hues not unlike some of those shown by some of the *Coleuses*. Red-brown, purple-brown, and green are so beautifully spread over the sharp-pointed succulent leaves that it forms a most beautiful plant for many purposes. Among other well-grown plants were some good specimens of *Ramondia pyrenaica* just passing out of flower, but showing by the few remaining blooms how well it was doing. Close to these was a good plant of *Haberlea rhodopensis* which had not flowered but which seemed in perfect health. Several dwarf *Campanulas* are now well in bloom, but I was especially delighted with a grand plant of *C. abietina*, which was doing particularly well in a good piece of fresh gritty loam. This seems a plant which is greatly benefited by a change of soil. The splendid violet-purple erect flowers formed a perfect mass of bloom. Another pretty little *Campanula* not too often met with is *C. Allioni*, a dwarf alpine Harebell with pale blue flowers, which are very large for the size of the plant.



Several dwarf Geraniums are also well in flower. The native *G. lancastriense*, a native of Walney Isle, is very pretty, but finer still are the attractive *G. cinereum* and the exquisite *G. argenteum*, with pale flowers and beautiful silk-like silvery leaves. The latter is a native of the Alps of Dauphiny and the Pyrenees, and was introduced as early as 1699, according to the "Cottage Gardeners' Dictionary," but according to the "Hortus Cantabrigiensis" it was not introduced until 1791. The latter date is, in all likelihood, that of re-introduction, as it is liable to perish from damp in winter. *G. cinereum* is a native of the Pyrenees, but the date of introduction seems to be unknown.

I have left myself but little space for notices of taller herbaceous plants, but some are so fine at present that other alpine must be left alone. Among the finest I have seen was the tall *Dictamnus taurica*, known also, I believe, as *D. gigantea*, the Taurian Bastard Dittany. The old *D. Fraxinella* and its white variety are well known, but the Taurian species is of much greater beauty. More vigorous in habit and with larger and finer spikes of flowers somewhat similar in colour to those of *D. Fraxinella*, it would be an ornament to any garden. It possesses, too, the curious property of giving off, when in flower, a vapour which will take fire if a lighted match is applied to it, without injuring the plant. I recollect some years ago a correspondent of *Garden-Work* who had observed this, and whose veracity someone had called in question, producing, to my great amusement, a certificate from the Provost of Auchtermuchty to testify that he had seen the experiment performed. These *Dictamnuses* will stand drought very well, sending down their thick roots a considerable distance into the soil.

Some of the *Eryngiums* or Sea Hollies are coming well forward, although the blue coloured species are only beginning to show faint touches of the fine colour which adds so much to their beauty. The various *Eryngiums* and *Echinops* and other thistly plants are at present very popular in this district, and in a short time will be seen in most gardens with a pretension to having a respectable collection of hardy flowers. And what a wealth of beauty is still untouched! *Lychnises*, *Irises*, *Poppies*, *Stonecrops*, *Saxifrages*, *Veronicas*, tall *Campanulas*, and others of which we may say as did Drayton:—

"With many a flower whose name were now too long to tell,"

open their blooms to our admiring eyes, and we are forced to say with Thomson:—

"Infinite numbers, delicacies, swells,  
With hues on hues expression cannot paint,  
The breath of Nature, and her endless bloom."

—S. ARNOTT.

## MUSHROOMS IN HOT WEATHER.

IF the opinions of most cooks are worthy of consideration, and they ought frequently to be consulted, it amounts to this, that Mushrooms are always of good service to them, and in addition are fully appreciated by their employers. This being pretty generally realised among gardeners, the attempt is made by all in a position to do so to keep up as nearly as possible an all-the-year-round supply. Some few succeed in this, but the majority fail during the hottest part of the year—or say, July and August, and that oftentimes through no fault of theirs. High temperatures and a parched atmosphere are usually fatal to Mushrooms, these causing the beds to become as "dry as a bone," and what few Mushrooms are produced to be thin, maggoty, and flavourless. Nor is this difficulty easily obviated in all cases. Those who have the command of cool cellars or other underground chambers, and these are few and far between, can and do succeed in maintaining a supply throughout the summer, and occasionally instances are met with of ridge-shaped beds being formed under trees where the temperatures are never high, and these being kept sufficiently moist and heavily mulched produce the much needed and fairly remunerative supply of Mushrooms till such times as the beds formed in July are coming into good bearing order.

It is my belief, however, that not a few beds in ordinary Mush-

room houses and sheds are discarded too quickly, a partial breakdown being understood as a complete collapse. When the beds become dust dry, as they very quickly do towards midsummer, the surroundings also being comparatively hot and dry, it is small wonder that what few Mushrooms put in appearance are of little worth; the surprise would be if the opposite prevailed. In all probability there are many hundred beds lying almost forgotten in various positions that are as full of spawn as they can well be, and only require restoring to a moister, slowly decaying state to make them as productive, or perhaps more so, than formerly. What they should have, therefore, is a gradual yet thorough soaking of soft water, or better still freely diluted farmyard liquid manure; the next best thing being water well impregnated with salt, the latter being used at the rate of 4 ozs. to every 3-gallon can of water. The first watering will not make much impression on a thoroughly dry bed, and in most cases at least three liberal applications, extending over as many days, are needed to well moisten the manure throughout the bed, the liquid manure or salt being given at the last watering. Then should follow a heavy mulching of strawy litter, or otherwise the beds soon become dry again. The walls and floors ought also to be frequently syringed or damped down, so as to keep them as cool and moist as possible. Woodlice are particularly troublesome at this time of year, and in many places eat the young Mushrooms as fast as they appear. In all such cases the outer edges of the beds, or all abutting against either walls or boards, should be well saturated with boiling hot water, this destroying woodlice more surely than anything else I have ever tried. All other crevices and dry corners ought also to be similarly treated, and what insects escape may be trapped in flower pots, in which sliced potatoes and dry moss has been placed. If the Mushrooms are twisted out of the beds when not more than half grown there will be few or no complaints of their being maggoty.

As before hinted, high temperatures and a dry atmosphere must be guarded against, and with the thermometer standing at 80° in the shade it is no easy matter to keep a Mushroom house cool. The best form of houses are those with the thatched roofs and walls, these never becoming either very hot or very cold. If the roofs are slated and exposed to the sunshine during the hottest part of the day, keeping down the temperature is almost an impossibility, though much might be done in the way of white-washing or temporarily shading them. The warm air ought to be as rigorously excluded as are the colder winter winds, and the better to accomplish this the doors, windows, and crevices, if any, should be kept closely blocked up, more especially during the day time. The nights being very much cooler, the doors might with advantage be opened, taking care to close them as early as possible every morning. If these precautions are taken the chances are a very serviceable lot of Mushrooms will very probably result.

In order to have plenty of Mushrooms, or at any rate to be independent of the uncertain supply from the open fields, a fresh bed ought to be formed towards the end of July, that being a good time to make a start with ridge-shaped, open-air beds. Should the weather be ordinarily hot and dry, extra pains must be taken in preparing the materials, and more especially in preventing them from heating dry. They ought not to be thrown into a large heap and there allowed to attain a white heat, but would be better kept in a more shallow square heap, and be turned inside out about every three days, being gently watered each time. This being carried out for the best part of three weeks, all rank gases and violent heat will be got rid of, and the manure being in a moist, not saturated state, when the bed is formed, the decay will be steady and certain, and the heat generated quite strong enough to run the spawn. When the droppings are badly prepared, or are at all raw, they will, when made into a bed, heat violently for a few days, and then collapse, the centre becoming dry and musty, and altogether unfit for the propagation of Mushrooms. The materials for ridge-shaped beds require especially to be well prepared, as in this case there is a greater depth of manure pressed together, the heat being much more violent accordingly. Naturally the spawn runs more rapidly, and the beds are more quickly productive when the temperature of newly spawned beds stands for several days at or about 85°, but there are greater risks to be run than is the case when the heat keeps nearer 70°; and these comparatively cool beds, if they are not unduly interfered with in the shape of waterings, the usual, yet most unwise proceeding of many impatient cultivators, will eventually produce extra good crops of superior Mushrooms. The plan of mixing fresh loam with the droppings, at the rate of one part of the former to two of the latter, is a good one, as it has a moderating effect upon the heating of the manure without impairing the productiveness of the bed. It is not advisable to mix the loam with the droppings till the latter have had a fortnight's preparation.—W. IGGULDEN.



## SOFTSOAP, SULPHUR, TOBACCO AS FUNGICIDES AND INSECTICIDES.

(Concluded from page 2.)

SOFTSOAP as a fungicide has been briefly alluded to. Mr. W. G. Smith, the eminent fungologist and delineator of everything relating to plants, suggests mixing sulphur with the soapy solution for mildew. Everybody believes in sulphur, so do I, but I do not believe in undissolved sulphur. Red spider does not like it because it interferes with their webs, and on hot days emits unpleasant fumes. Thrips set it at defiance, but aphides are made uncomfortable. It kills none of those in the form of flowers of sulphur. Then there is the mildew. "Surely it kills that," some may exclaim. If it does so, how is it that mildew returns as certainly as the seasons? Professor Scribner, in his new work on fungus diseases, recommends sulphur as the only remedy needed for powdery mildew (*Uncinula spiralis*) so common a pest in American vineyards, and like our mildew on Vines (*Oidium Tuckeri*), wholly external, and does not penetrate to the interior of the leaf, shoot, or fruit. He says:—"Flowers of sulphur dusted on the Vines (or in hot climates simply spread over the ground beneath them) serves effectually to destroy the powdery mildew. No other treatment is necessary to protect the Vines from this parasite. In regions where the fungus is most injurious it is the custom of Vine growers to make at least three applications. First, when the young shoots are about 4 inches long; second, when the Vines are in bloom; and third, just before the berries begin to colour." Professor Scribner is kind enough to mention "hot climate." Direct contact is necessary in a cool climate—"the flowers of sulphur dusted on the Vines." It kills mildew in a hot climate when placed on the ground by its fumes, and it destroys mildew by contact. Sulphur fumes annihilate mildew, and it is a nice point to know the exact amount to vaporise from hot-water pipes that will kill mildew without injuring the Grapes. Some can do it readily enough. It is only a matter of a little skim milk added to flowers of sulphur so as to form a cream, and brushing it on the hot-water pipes when heated to 160° or more (sulphur vaporises at 170°) with the house closed. I have never had occasion to use it in this way for mildew, for the simple reason that I have never had a mildewed Vine to deal with under glass, but I have seen how others combated mildew on Vines both with it in contact and by its fumes. Yet I have used sulphur on the pipes against red spider, and I have always found it inimical to Grapes. In their early stages of swelling it produces rust (not a fungus), and later the fumes cause Grapes to colour prematurely, often causing the berries to crack. Dusting flowers of sulphur on mildew-infested Vines spoils the appearance of Grapes. But does sulphur annihilate mildew? Is it more than a palliative? Take the Rose mildew (*Oidium leucoconium*), dust the leaves and all infested parts with flowers of sulphur, syringe with softsoap and sulphur. It prevents the spread of and in measure destroys *Oidium*, but it does not prevent *Oidium* "fruits" maturing, and the seeds (spores) from those producing the mature form, *Sphaerotheca pannosa*, nor this from producing its "fruits," which living through the winter reproduce *Oidium* the following season. Those interested in this subject may consult an excellent article, with illustrations, by Mr. W. G. Smith in the *Journal of Horticulture*, vol. ix., third series, page 478.

That sulphur is not a specific for mildew is abundantly proved by the recommendation of it in some other form than "flowers." Mr. W. Taylor recommended its transformation by sprinkling it over fresh lime whilst slacking. That forms a lime and sulphur powder, but Mr. Taylor did not recommend it for mildew, but as a wash for fruit trees, for which purpose it is perhaps unrivalled as a fungicide, insecticide, and preventive of birds taking fruit buds. Its formula was given in the *Journal of Horticulture* a few years ago. Mr. Tonks brought sulphide of potassium into notice as a fungicide or mildew preventer or destroyer. This destroys Gooseberry fungus—dose, half an ounce to a gallon of water. Our French neighbours (also Mr. Tonks) advised the use of bi-sulphide of lime. There are many formulas, but the following is the approved. French: Flowers of sulphur, 1 lb.; fresh burned lime, 1 lb. Slack the lime in an iron pan or copper, adding water to form it into a cream, then add the sulphur; mix thoroughly and add 1 gallon of water. Keep it boiling a quarter of an hour, stirring briskly all the time, then allow the compound to cool and settle. That effected pour off the clear liquid into bottles kept well corked in a dark place. When required for use mix a quarter of a pint with 3 gallons of water, half a pint to 6 gallons, or a pint to 12 gallons of water. This applied thoroughly, so as to wet every part on a calm evening before the mildew appears—the shoots being about 2 inches long—on trees that in previous years were infested, is an almost certain preventive,

or when the mildew first commences its attack syringe two or three times at intervals of as many days, so as to make sure of reaching every part, and repeat, if necessary, at intervals of twelve to fifteen days.

But is it the sulphur or the lime that kills mildew? There is no sulphur in softsoap, yet it destroys (rather holds in check) Rose mildew. Of course there is sulphur in sulphide of potassium, but in this case, is it the sulphur or potash that lays the *Oidium* low? Surely it was the potash, or how are we to account for the potency of softsoap in destroying mildew? It may be mentioned that sulphides discolour paint, but it passes off. Those liking to see white paint, or any colour into which lead enters, must not use sulphides. Let us look at sulphates. There is sulphate of lime, 32.56 per cent. of lime, 46.51 per cent. sulphur. It has no fungicidal value. Sulphate of copper, Professor Scribner says, "It is one of the most effective fungicides that can be used." On the Continent of Europe it has rendered wine manufacture possible through destroying Vine parasites. Mr. B. T. Galloway, U.S. Department of Agriculture, says:—"It is probably the most reliable of all" (remedies for Grape diseases), "as it has stood the test of several seasons, and has never failed us, no matter how favourable the weather for black rot and other diseases." Thus the sulphur and lime come to the front in the Bordeaux mixture, but Mr. Galloway prefers the ammoniacal carbonate of copper solution. The treatment recommended is briefly:—1, In spring, before the buds begin to swell, spray the wood with the simple solution of copper sulphate (1 lb. to 25 gallons of water). 2, About the time the leaves are one-third grown spray with ammoniacal carbonate of copper solution. 3, Repeat the latter treatment when the Vines are in full bloom, and thereafter at intervals of twelve or fifteen days. If this treatment has proved successful, what is there to account for it but the copper? The sulphur and lime in the Bordeaux mixture precludes its use over Vines after the fruit is formed through the danger of spotting the Grapes. Briefly, lime spoils Grapes, and sulphur used over bunches of Grapes renders them not fit to be seen, much less to be eaten. Sulphur in copper sulphide bites keenly, therefore the horticulturists of Europe use it in modified form for Vines, and in America have as little recourse to it as possible, because of the danger of its spoiling the Grapes.

Sulphur fumes can be of little use as generated from surfaces to which they are applied in dusting for mildew. How it acts on mildew in the form of flowers of sulphur I do not know, unless by acting as a corrosive of the "microparasitic cellulose;" but it certainly does not assist the cellulose of the plant in those parts impaired by the mildew so as to repair the damage done, and cause the fruit to become first class. Flowers of sulphur have no manurial value, they act prejudicially on roots, simply killing Heaths, and are undeserving of the high value set upon them as fungicide or insecticide.

Tobacco is one of the oldest and still best of insecticides as a decoction—namely, strong shag tobacco 1 lb., boiling water three gallons, cover over, let stand till cool, then strain. This is effective when used as a spray against aphides and thrips. Syringing is a wasteful process, more of the decoction running off than remaining on the trees. The high duty on this luxury has caused it to fall into little use latterly as compared with former years, but the Government have wisely removed those restrictions as regards its preparation for horticultural purposes. There is "tobacco powder," in which there may be some sulphur, but I do not know the exact terms that govern its preparation, and tobacco liquor, also tobacco juice. These are all good and well-known remedies, and fumigation with tobacco paper or rag suffocates plant lice. The only points necessary are an article free from noxious ingredients (particularly sulphur), to have the foliage dry, deliver the smoke cool, and not give an overdose.—G. ABBEY.

## ROYAL HORTICULTURAL SOCIETY.

JULY 7TH AND 8TH.

THE opening day (Tuesday) of the Shows and Conferences at Chiswick was most unfavourable, the weather being stormy with frequent heavy downpours of rain; in fact, it was more like March than July weather. The exhibits were not very numerous, but interesting; one tent was devoted to the Fruit and Floral Committee contributions, and the other was filled with the hardy flowers, and the only regret was that more visitors were not present to inspect the display. The programme for the Conferences was carried out as arranged—namely, hardy flowers on the first day and small fruits on the second, but we shall have some notes to give respecting these another week.

FRUIT COMMITTEE.—Present: P. Crowley, Esq., in the chair; and Messrs. P. C. M. Veitch, James H. Veitch, W. Denning, W. Bates,



G. Reynolds, G. Wythes, James Hudson, A. Dean, W. Balderson, and J. Cheal.

Mr. G. F. Pontin, Stanley Vinerie, Woking, exhibited some large Melons; Conquerer, weighing 10 lbs. 12 ozs. and 9 lbs. 12 ozs.; Golden Perfection, 8 lbs. 1 oz., 7 lbs. 9 ozs., and 7 lbs. 6 ozs. (vote of thanks.) The Duke of Northumberland, Albury Park, Guildford (gardener, Mr. W. C. Leach), sent three dishes of large fruits of Grosse Mignonne Peaches. Mr. J. W. Church, the Vineyards, Braconash, exhibited a bunch of Alicante Grapes grown in 1890, but cut from the Vine January 6th, 1891. The berries were fairly plump and the colour good. (Vote of thanks.)

Mr. J. Fitt, Panshanger Gardens, Hertford, showed a dish of Premier Strawberries, large, and of rich colour. A bunch of fine Bananas, known as Lady's Finger, was also shown, the fruits of medium size, pointed, with a very thin skin, and rich aromatic flavour (first-class certificate). Mr. G. Fennell, Fairlawn Gardens, Tonbridge, sent fruits of Violette Hâtive Nectarines in three very different stages, from small green samples the size of small Plums to full sized ripe fruits. The tree is grown so that its branches are trained into two other houses, and the exhibitor stated that, "All the successions have finished satisfactorily for several years; it has proved a useful method of prolonging the supply from one tree." Mr. G. Garner, The Gardens, Amberwood, Christchurch, showed two finely netted Melons.

Mr. R. Gilbert, Burghley Gardens, Stamford, showed a basket of fine Strawberries under the name of Chief Secretary. He stated in a letter that "the variety had been grown two seasons, and is undoubtedly the earliest in our collection, which includes John Ruskin, King of the Earlies, and Noble. It is a first class grower, and a remarkable producer." It was shown with Sir Joseph Paxton for comparison, and the Committee recommended it be sent to Chiswick for trial, as some thought it was much like Sir Joseph Paxton, and others that the flavour was superior to that variety.

Mr. T. Coomber, The Hendre Gardens, Monmouth, exhibited eight fine Queen Pines, grandly developed deep fruits (small silver medal). Mr. W. Taylor, Hampton, exhibited three dishes of Strawberries—Sir Chas. Napier, British Queen, and the small brightly coloured Grove End Scarlet. Mr. W. Palmer sent a fine fruit of Suttons' Triumph Melon, the flavour of which was good, but the Committee considered it was over-ripe. Mr. John Watkins, Withington, near Hereford, showed twenty-four dishes of Strawberries and fifteen dishes of excellent Apples, with some Gooseberries and Currants (bronze medal). Mr. W. C. Leach showed several varieties of Strawberries and two large trays of fine fruits.

Mr. John Collis, Balls Lane, Chiswick, showed two seedling Strawberries and one dish of Sir Joseph Paxton (vote of thanks). Mr. R. Daws, High Road, Chiswick, sent samples of a seedling Rhubarb to be tried at Chiswick.

The first prize offered by Messrs. Sharpe & Co. for three dishes of Peas was awarded to Mr. Chadwick for Queen, Triumph, and Sir F. A. Milbank.

#### HARDY FRUIT.

In the class for six dishes of Strawberries, Mr. G. H. Sage won the first prize with large and finely coloured samples of James Veitch, Sir Joseph Paxton, Premier, Keens' Seedling, President, and Noble. The second prize went to Mr. W. Palmer for A. F. Barron, Commander, Bicton Pine, La Constante, Noble, and President of fair quality.

In the class for four dishes of Strawberries, Mr. Chadwick was the only exhibitor, and took the first prize for Vicomtesse Hericart de Thury, Noble, Sir J. Paxton, and British Queen. Mr. Chadwick was also first for one dish of Strawberries with fine fruits of Sir Joseph Paxton.

With six dishes of Gooseberries Mr. W. Palmer was first, showing good fruits of London, Slaughterman, Old England, Hero of the Nile, Shakespeare, and Conquering Hero. Mr. T. Gilbert, Merrow, Guildford, was second with Clayton, Queen of Trumps, Catherine, Forester, Drill, and Duke of Sutherland. There were four entries in this class. A second prize was awarded to Mr. W. Palmer for two dishes of Gooseberries, and he was the only exhibitor of Currants, but failed to secure a prize.

An extensive collection of Strawberries in pots, with baskets of Strawberries and Gooseberries, came from Messrs. Paul & Son, Cheshunt, representing a large number of varieties. Messrs. Bunyard & Co., Maidstone, also contributed a large collection of Strawberries in pots.

FLORAL COMMITTEE.—Present: W. Marshall, Esq., in the chair, and Messrs. H. Herbst, James O'Brien, W. C. Leach, B. B. Lowe, H. Turner, G. Paul, P. Veitch, W. Goldring, R. Dean, C. Jefferies, G. Gordon, and Lewis Castle.

Messrs. J. Veitch & Sons, Chelsea, exhibited specimens of the small and elegant *Philadelphus microphyllus*, *Andromeda speciosa pulverulenta* and *cassinifolia*, the bright yellow *Berberis aristata*, and the interesting *Escallonia philippiana*, *pterocladon*, and *exoniensis*, for the last named an award of merit. Messrs. Veitch also sent a plant of *Gerbera Jamesoni*, with bright orange red flowers, which the Committee desired to see again. A collection of Delphiniums, Canterbury Bells, and choice hardy flowers also came from the same firm's Coombe Wood Nurseries, Gaillardias being very notable. From Mr. C. Turner, Slough, came a group of Delphiniums and three boxes of laced Pinks, for one of which, The Rector, an award of merit was granted.

The Duke of Northumberland, Albury Park, Guildford (gardener, Mr. W. C. Leach), sent a collection of elegant *Alströmarias*, softly and richly coloured flowers, most varied in tint. Mr. B. Ladhams, Southampton, contributed a pleasing group of border Pinks, single

Roses, and Sweet Williams. Mr. T. Laxton, Bedford, contributed several seedlings from Mrs. Sinkins, pink; Marchioness of Salisbury, pure white, being very fine. Another white variety Stanley was good, and Lady R. Churchill, with a crimson centre, was also noteworthy. Mr. A. Waterer, Knap Hill, sent bunches of late flowering hardy Azaleas, from white to deep crimson, and very sweet. Mr. R. Dean, Ealing, exhibited a group of handsome Stocks, Canterbury Bells, and seedling Pinks.

Mr. J. Prewett, Swiss Nursery, Hammersmith, showed a fine variety of *Aërides maculosum* with a large panicle of crimson-lipped flowers. F. Wigan, Esq., Clare Lawn, East Sheen (gardener, Mr. W. H. Young) showed *Angræcum caudatum* and *Odontoglossum cordatum sulphureum*. Messrs. Seeger & Tropp, East Dulwich, showed several fine varieties of *Cattleya Gaskelliana* and *C. Mossiae*, together with *Lælia xanthina* and the new *Grammatophyllum Seegerianum*.

#### CERTIFICATED PLANTS.

*Centaurea Cyanus nana compacta* (H. Herbst).—An extremely dwarf plant, 3 to 6 inches high, with diminutive purple flower heads freely produced (award of merit).

*Tuberous Begonia Miss Faulkner* (H. Cannell & Sons).—A grand double variety with large handsome flowers, rich clear yellow (award of merit).

*Godetia White Pearl* (J. Carter & Co.).—A capital variety with pure white flowers very freely produced. It will prove a useful addition to the fine varieties in cultivation.

*Pink the Rector* (C. Turner).—A dozen blooms of this variety were shown very uniform in character, the petals clear, even, of good substance, the deep rosy crimson edging clearly defined.

*Escallonia exoniensis* (J. Veitch & Sons).—A hybrid with small Epacris-like flowers, with a pink tube and white rounded lobes. The leaves are elliptical and serrated at the margin (award of merit).

*Prunella Webbiana* (Paul & Son).—A beautiful form of the *P. grandiflora* type, with bright rosy crimson flowers in dense heads (award of merit).

*Mimulus cupreus, Prince Bismarck* (J. Laing & Son).—Very dwarf with abundant deep crimson flowers, very effective and distinct (award of merit).

*Lilium maritimum* (T. S. Ware).—An interesting small flowered species, the flowers suggestive of *Clematis coccinea*, but more open, orange red, with dark spots in the throat.

*Delphinium Robin Adair* (Kelway & Co.).—A grand single variety with large flowers, bright metallic blue; the spike is massive, and the variety altogether distinct and imposing.

*Peony Madame Emile Galle* (Paul & Son).—A charming double variety with very delicate blush-tinted flowers.

#### HARDY FLOWERS.

In class 1, for eighteen bunches of hardy perennials, O. T. Hodges, Esq., Lachine, Chislehurst, was awarded the silver-gilt Flora medal for good examples of *Epilobium angustifolium*, *Campanula carpatica alba*, *Prunella grandiflora*, *Campanula nobilis alba*, *Eryngium alpinum*, *Campanula macrantha*, *Pæonies*, *Lilium croceum*, *Delphiniums*, *Erigeron speciosus*, *Astrantia Biebersteini*, *Spiræa filipendula fl.-pl.*, *Spiræa Aruncus*, *Gaillardia picta*, *Campanula carpatica*, *Inula glandulosa*, *Lathyrus Drummondii*, and *Sidalcea oregana*. The second prize went to Mr. G. H. Sage, Ham House Gardens, Richmond, for very bright and good specimens.

In class 2, for twelve bunches of hardy perennials, the premier award was secured by W. Marshall, Esq., Auchenraith, Bexley (gardener, Mr. Pratt) who had *Epilobium angustifolium*, *Lychnis vespertina fl.-pl.*, *Lysimachia thyrsiflora*, *Campanula Van Houttei*, *Spiræa Aruncus*, *Lychnis chalcidonica*, *Delphinium*, *Campanula urticiflora fl.-pl.*, *Stenactis speciosa*, *Thalictrum glaucum*, *Lilium chalcidonicum erectum*, and *Astrantia major*. E. M. Nelson, Esq., Hanger Hill House, Ealing (gardener, Mr. Chadwick), was second with good Irises and other flowers.

In the hardy flower tent Messrs. J. Laing & Sons, Forest Hill, who have of late given greater prominence to representatives of their extensive hardy plant department than heretofore, had a very fine display of hardy flowers, extending down more than half the length of the tent. It was rich and well diversified, including many noteworthy plants, such as *Campanula Raineri*, a charming dwarf species; *Aquilegia chrysantha flava*, *Cyclobotria alba*, *Heuchera sanguinea*, a most graceful perennial; *Calochortus venustus*, *Scabiosa caucasica*; a rich crimson variety of *Mimulus cupreus* named *Prince Bismarck*, for which an award was recommended, an effective and useful thing; many fine Irises, *Violas*, *Pansies*, *Pæonies*, *Gladioli*, *Carnations*, *Pinks*, *Delphiniums*, and other flowers now in season. A silver-gilt Flora medal was awarded, and was well deserved. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, also had a large and bright display, comprising *Campanula persicifolia alba grandiflora*, *C. Hendersoni*, *Lilium Hansonii*, *L. Washingtonianum*, *L. alutaceum*, *L. Parryi*, *L. colchicum*, the fine new white *Pink Her Majesty*, *Lathyrus grandiflorus*, *Delphinium nudicaule*, *Lychnis hybrida*, and many other plants. A silver Flora medal was recommended. Messrs. Kelway & Son, Langport, had one of their well-known magnificent displays of *Delphiniums* and *Gaillardias*, with a stand of *Iris Kämpferi* varieties, others of miscellaneous hardy flowers, and spikes of the beautiful *Crinum McOwani*. A silver Flora medal was adjudged.

Messrs. Paul & Son, the Old Nurseries, Cheshunt, were represented by imposing masses of *Delphiniums*, *Campanulas*, *Pæonies*, *Liliums*, *Gaillardias*, and *Poppies*; together was *Centranthus ruber*, *Hemerocallis Thunbergii*, *Pentstemon pubescens*, *Campanula grandis alba*, *C. Van*



Houttei, *Geranium armenum*, dwarf Cannas, *Prunella Webbiana*, *Dianthus atrorubens*, *Orchis foliosa*, *Phlox ovata*, *Arnebia echioides*, and other plants. A silver-gilt Flora medal was awarded. Messrs. Barr and Son, 12, King Street, Covent Garden, had a bright and loosely arranged collection, noticeable among which were *Tradescantia virginica delicata*, *Epilobium angustifolium*, *Potentilla nepalensis*, and *Crucianella stylosa*. A silver Bankian medal was adjudged.

A choice assortment also came from the Royal Gardens, Kew, including *Ononis natrix*, *Sphaeraleca rivularis*, *Cathcartia villosa*, *Eremostachys laciniata*, *Perezia multiflora*, *Chrysogonum virginianum*, *Dianthus pulchellus*, *D. viscidus*, a lovely little species; *Gentiana lutea*, *Lindelofia spectabilis*, *Layia glandulosa*, *Hypericum Reicheri*, *Campanula excisa*, *C. alpina*, *Heliosperma chromada*, and *Houstonia purpurea*.

SCIENTIFIC COMMITTEE.—Present: Mr. D. Morris in the chair; Mr. McLachlan, Dr. Müller, Rev. W. Wilks, Sir J. D. Llewellyn, Rev. G. Henslow, Hon. Sec.; Mr. C. A. Barber, and Mr. R. A. Rolfs, visitors.

*Excrescences on Willows*.—With reference to the specimens brought by Mr. Blandford to the last meeting, and referred to Professor H. Marshall Ward for an examination of the tissues, he reported that there was no evidence of any fungus growth, and Mr. McLachlan added that there was also none of insects having ever been present. Hence the true cause of the hypertrophy could not be ascertained.

*Papaver pilosum* (?).—This plant having been referred to Kew was ascertained by Mr. Baker to be *Papaver rupifragum*, var. *atlanticum*, and is figured in the "Bot. Mag.," tab. 7107. It is a native of Morocco, *P. rupifragum* being a native of Andalusia. Mr. Wilks observed upon the fact that there are a great number of Poppies now in cultivation which require a careful systematic treatment.

*Iris, Petals Variegated*.—Mr. McLachlan exhibited three petals half white and half purple, which appeared on a single plant of *Iris florentina*. The question was raised whether the plant was a white variety of *Iris germanica*, reverting. It was referred to Kew for further consideration.

*Scotch Fir and Larch Attacked by Chermes*.—Mr. R. Maher of Yattendon Court, Newbury, forwarded specimen branches of these trees infested with species of chermes. The only remedy is the free use of paraffin spray. At Kew, Mr. Morris observed, they were obliged to cut down some trees growing in the midst of others; as from their height and crowded condition the spray could not be used effectually, and the only alternative is to destroy the infected trees.

*Ash Wood Diseased*.—He also sent specimens of branches having the common cankerous-like hollow places on them. They were from an old tree 18 inches in diameter and a foot from the ground. The trunk and all the branches presented a similar appearance. They were referred to Prof. H. Marshall Ward for further investigation. Mr. McLachlan observed that that the Weevil *Hylesinus Fraxini* or else the larva of a moth *Myelos pinguis*, which feeds beneath the bark, might possibly have been the primary cause of the injury.

*Cynoches chlorochilon* (Klotzsch).—Mr. Rolfs exhibited what is apparently the male flower, as the column is very slender, and the pollen normally developed. This is a well-known garden plant. In addition he showed another form, being a larger flower with a short stout column, which is believed to be hitherto unrecorded, and is supposed to be the female flower of the same species. These two flowers appeared upon separate individuals imported from Caracas as *C. chlorochilon*. They flowered in the collection of M. A. Houjean de Lehaie, Membre de la Chambre des Représentants, Hyon (Mons), Belgium. The special interest attached to the present examples is the great similarity between the two sexes, a character also observed in *C. Loddigesi*, while in *C. ventricosum*, *C. pentadactylon*, and *C. Rossianum* the male and female flowers are very dissimilar. *C. Egertonianum*, the male of *C. ventricosum*, is a familiar example.

*Elm, with Coloured Wood*.—A branching specimen in full leaf was exhibited by Mr. Morris. It was received many years ago at Kew from Van Houtte under the name of *Ulmus sp. libero-rubra*. This is believed to be only a form of the Scotch or Wych Elm, *Ulmus montana*. The peculiarity possessed by the specimen consists in its having the wood immediately beneath the bark of a bright pink colour, which easily distinguishes it from the type. The exact nature of the colouring substance in this instance does not appear to have been investigated.

## IRIS ROBINSONIANA.

FACING the entrance to the succulent house in the Royal Gardens, Kew, a most conspicuous plant is the giant *Iris Robinsoniana*, and for some eight years its bold habit and foliage have attracted the notice of thousands of visitors, while horticulturists have been watching with much interest for the appearance of its reputedly beautiful flowers. This year patience and good cultural attention have been rewarded, for the plant has produced three of its tall scapes and has amply realised all expectations formed concerning it. The first flowers expanded on June 21st, and up to last Friday 157 had opened and faded, the largest number expanded in one day being eighteen, and on the day in question a dozen were out. Like many members of the family the flowers are of short duration, lasting about a day, but the succession produced maintains the interest over a comparatively long period.

*Iris Robinsoniana* is a native of Lord Howe's Island, where it is said to be sparingly represented, and was brought into notice about twenty



FIG. 4.—IRIS ROBINSONIANA.

years ago. The plant at Kew is very strong, and is flourishing planted out in a border where it is fully exposed to sun and air. This seems to have just suited it, for the leaves and scapes have exceeded in size the descriptions of the native plants. The leaves are 6 feet and more in length and 4 inches in diameter, while the scapes are about 8 feet in height. The flowers are 4 inches in diameter with spreading divisions, the outer ovate,  $1\frac{1}{2}$  inch, and the inner a little over an inch across. They are with the small stigmas pure white, with the exception of a small crescent shaped bright orange blotch at the base of each of the outer divisions, and it can be understood why the popular term "Wedding Flower" has been applied to it. The plant is extremely ornamental for its foliage alone, but if the secret can be discovered of flowering it more frequently it would become a great favourite where sufficient accommodation could be afforded. It is said that seed is readily obtainable, and the Kew plant will probably mature a good crop, so that we may expect to see this magnificent *Iris* in many gardens before long. With the exception of a specimen which I understand flowered at Tresco, in the Scilly Islands a year or two ago, the Kew plant is the first which has produced flowers in this country, and one of these is represented in fig. 4. The specific title was bestowed in honour of Sir Hercules Robinson.—L. C.





**EVENTS OF THE WEEK.**—To-day, July 9th (Thursday), Rose Shows will be held at Bath and Woodbridge. For Saturday, July 11th, the Eltham, New Brighton, and Reigate Rose Shows are announced. On Tuesday, July 14th, the Wolverhampton Society, and on Wednesday, July 15th, the Ealing Society hold their Shows, at which Roses will have a prominent position. Besides these events the Fruiterers' Company will hold a meeting at the Mansion House on Monday, July 13th, at 3 P.M. for the distribution of the certificates awarded at the Guildhall Show last October, and to discuss the advancement of fruit culture. The Rose Fair and Fête at the Crystal Palace for the benefit of the Gardeners' Orphan Fund will also be held on Wednesday, July 15th.

— **AT the Court of the FRUITERERS' COMPANY**, held on the 25th ult., it was resolved that the honorary freedom of the Company be conferred on Mr. Samuel Barlow, in consideration of his having exhibited the remarkable Apples from an orchard house tree that attracted so much attention at the Guildhall last year.

— **NATIONAL PINK SOCIETY (NORTHERN SECTION).**—The annual Exhibition of this Society will be held in the Royal Botanical Gardens, Manchester, on the 18th inst. Eight classes are provided, in which the different sections of florists' Pinks may be represented, and growers of these charming flowers are invited by the Committee to bring them before the public.

— **THE COUNTESS STRAWBERRY.**—This is the best Strawberry in the Chiswick collection at the present time. The fruits are above medium size, the majority somewhat flat and cockseomb shaped, dark red, very firm, with a rich, full flavour. The plants grow well, without being robust, and are compact in habit, with neat medium-sized leaves. The crop is good. This is one of Dr. Roden's seedlings, probably the best of them, and seems worthy of more general cultivation.

— **STIRLING CHRYSANTHEMUM ASSOCIATION.**—We observe in the schedule of this Association that a gold medal is offered for twelve incurved blooms of Chrysanthemums in not less than nine varieties, "the competition to be open to all on payment of 2s. 6d." The Show is to be held at Stirling on November 20th and 21st. Mr. Wm. Boswell is the Secretary.

— **THINNING APPLES.**—The young bush Apple trees at Chiswick set an enormous crop of fruit, and the trees are relieving themselves of the burden in a somewhat striking manner. On the ground beneath some of them there are from five to ten times more Apples than on the branches above, yet in most cases sufficient are retained and swelling freely to produce an excellent crop, and on some the fruits are about as regularly placed as if the thinning had been done by hand. Overburdened Apple trees do not always cast the fruits so freely, and varieties differ in this respect. The Chiswick trees appear to have relieved themselves in a very sensible manner and quite to Mr. Barron's satisfaction.

— **FLOWER STANDS AT WINCHESTER.**—Visitors to the Winchester Rose Show annually expect to see tastefully dressed stands of choice and wild flowers, and are never disappointed. The Misses Flight are adepts in the blending of colours, and their arrangements are never crowded. In the Wild Flower class Miss Agnes Flight was distinctly ahead, although Miss Byrne and Miss J. Trask showed stands of no mean order of merit. Miss Flight's first prize stand of other flowers needed but two or three blooms of a higher colour at the base to make it perfect. Mrs. J. L. Trask, Mere Court, Sparsholt, was a good second in the class.

— **JOHN RUSKIN STRAWBERRY.**—I was induced to give this variety a trial along with Noble. Fifty plants of each were planted on an early border. We gathered from John Ruskin three days before Noble, and all who have tasted both varieties are of opinion that the former is much superior in flavour. It is also much firmer in the flesh, and should prove a better traveller than Noble, but it lacks the fine size of the latter. Competitor is a Strawberry we are likely to hear more of by-and-by. The plants I have here are doing well, ripening fine fruit. It would be interesting to hear from some who have tried the above-mentioned sorts as to their qualities.—**JOHN SHORT, Hummersknott.**

— **THE GARDENERS' ORPHAN FUND FÊTE.**—The Floral Fête and Rose Fair to be held on behalf of this charity at the Crystal Palace on Wednesday next ought to attract a large number of visitors. Many Roses and other flowers are promised for sale, and groups of plants are kindly offered by nurserymen to contribute to the general display. The Crystal Palace authorities provide varied attractions, and the national cricket match between gardeners and seedsmen is exciting considerable interest. Mr. Molyneux has men ready from Berks, Essex, Hants, Kent, Lancashire, Middlesex, Northamptonshire, Somerset, and Guernsey, and as he is a Yorkshireman his team will be representative. We have no particulars about the seedsmen, but Mr. Sharman may be trusted to exert himself and set his doughty opponents a task to defeat the active men from warehouse and counter. A fine day is hoped for and a large company, in order that the enterprise may prove a success.

— **MR. E. H. JENKINS**, a well-known authority on hardy flowers, a good cultivator and ready writer, informs us he has taken the Queen's Road Nurseries, Hampton Hill, Middlesex, and intends growing fruit and cut flowers for market. He has our best wishes for his success.

— **ORCHIS MACULATA.**—Mr. A. Harding sends us from Orton spikes of this Orchis as gathered in both a wild and cultivated state. Those from cultivated plants are more than four times the size of the wildings, and distinctly attractive. The plants grown in good soil produce spikes from 18 inches to 2 feet in height, and massive in proportion. This Orchis is highly worthy of cultivation as a garden flower.

— **THE TOTAL RAINFALL AT CUCKFIELD, SUSSEX**, for June, was 1.51 inch, being 0.29 inch below the average. Heaviest fall 47 inches on 22nd. Rain fell on eleven days. Total fall for the six months 9.31 inches, which is 2.86 inches below the average. Highest temperature 82° on the 18th, lowest 38° on 12th, mean maximum 68°, mean minimum 49.1°, mean temperature 58.5°. Partial shade readings about 1° below the average.—**R. I.**

— **CROYDON GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT SOCIETY.**—At the last meeting of this Society the members decided to visit the Crystal Palace on Wednesday next, the 15th inst., on the occasion of the fête in aid of the Gardeners' Orphan Fund. It is expected that the members of the Society will render all the support they can. Mr. Stanley Baxter, the Honorary Secretary, has undertaken the arrangements, and nothing fails in his hands.

— **EARLY PEAS.**—Your correspondent, Mr. Long, mentions the above. On February 24th we sowed Veitch's Extra Early and Chelsea Gem Peas. We have been gathering from these since June 20th. Exonian was sown on March 7th, and we were able to gather on June 25th. This appears to be a satisfactory cropper and of good flavour.—**T. H. SLADE.**

— **THE MARTIN SMITH PRIZES FOR BORDER CARNATIONS.**—The question as to whether the plants being grown to supply the cut blooms to compete in the special classes in which the above prizes are offered having been raised and submitted to Mr. Martin Smith, he has, on the suggestion of Mr. Harry Turner, authorised the publication of the following:—"Each stem to carry not less than three blooms or buds." It is felt that it is impossible to prevent disbudding, especially as the act of removal cannot be detected, even supposing the practice to be disallowed. There is nothing in the regulations governing the competition for these prizes which prohibits disbudding. The prizes will be competed for at the Drill Hall, James Street, Westminster, on July 21st.

— **THE programme of the NATIONAL CHRYSANTHEMUM SOCIETY'S Excursion for July 20th, 1891**, is as follows:—10.50 (sharp), assemble at Euston Station. Train leaves for Leighton Buzzard at 11 A.M. Tickets are also available from Addison Road, Kensington (train leaves 10.42). Camden Town (North London Railway train leaves at 10.39). Travellers by the two last named trains change at Willesden into the 11 A.M. train from Euston, due at 11.11 A.M.; 12.13, train arrives at Leighton Buzzard; 1.30 P.M., dine at Swan Hotel, Leighton Buzzard; 2.15, brakes convey to Ascott Park; 2.45, arrive at Ascott Park, and inspect the gardens and pleasure grounds. The brakes are available for drives during the afternoon, in parties of not more than twelve persons. Special tickets, 1s. each, can be obtained of the Secretary on the ground. Five, assemble in pavilion for tea; 8, brakes leave Ascott Park for Leighton Buzzard; 8.40, train leaves Leighton Buzzard; 9.57, arrive at Willesden; 10.20, arrive at Euston; 10.27, arrive at Camden Town. (change at Willesden); 10.32, arrive at Addison Road. Application for tickets must be received by Mr. R. Dean by Thursday, July 16th.



— FROM Messrs. Kelway & Son, Langport, Somerset, we have received a box of HARDY FLOWERS, comprising a number of the handsome varieties of Delphiniums, Pæonies, and Gaillardias, which have won the firm so many certificates and other honours at metropolitan or provincial shows. The Delphiniums were particularly fine, the flowers large, in soft and brilliant shades of blue. The Pæonies also were massive, beautiful, and some almost as fragrant as Roses.

— VEGETABLES AT WINCHESTER.—Excellent collections of six varieties of vegetables were staged at Winchester last week in competition for the prizes offered by Messrs. Sutton & Sons by Mr. J. Gosney, gardener to Captain C. Mitchell, R.N., West Highlands, Winchester. Sutton's Seedling Potato, Improved Telegraph Pea, Leviathan Beans, and Trophy Tomatoes were the most noteworthy; and by Mr. T. Annalls, gardener to T. G. Shenton, Esq., The Glen, Golden Common, who was a good second; the omission of a dish of Potatoes in his collection proved, as it ought to do, a serious objection to his taking the premier award.

— EARLY PEAS.—On February 17th sowings were made on a south border of the following varieties:—Ringleader, William I., American Wonder, and Sutton's Al. The latter was sown at the end of the border, where, owing to trees, it lost the afternoon sun. On June 19th I made abundant gatherings of William I., Ringleader, and American Wonder. Al came in two days later, and I am convinced that had it not been for the drawback arising from its position, it must have been earlier. It was the best of all in quality—a Marrowfat, resembling Early Paragon, and I think justifies its name.—F. SMITH, *Palace Gardens, Salisbury.*

— WEATHER AT RIPLEY, YORKS, DURING JUNE, 1891.—June opened seasonable, and gave promise of bringing the hoped-for rain, as 0.31 inch fell on the 2nd, and 0.22 inch on the 4th; but, alas! we were to suffer disappointment, as after the last-mentioned date no more fell (excepting two very slight showers on 7th and 13th) until the 23rd, the total fall for the month being 1.05 inch, which fell upon seven days. There were fifteen bright days; wind was northerly on nineteen days. Mean reading of barometer, 30.12°. Mean maximum temperature, 67.7°; mean minimum temperature, 44.9°; mean temperature, 56.3°. Highest maximum temperature in shade, 83° on 19th; lowest minimum temperature in shade, 36° on 1st. Total rainfall for six months ending June 30th, 8.17 inches.—J. TUNNINGTON, *Ripley Castle Gardens.*

— THE DALSTON AND DE BEAUVOIR TOWN CHRYSANTHEMUM SOCIETY is a vigorous and progressive young body of amateurs who are evidently determined to render it a pattern for local societies. At a recent meeting, called for the purpose of electing a President as successor to the late Mr. Wm. Holmes, Mr. Charles Gibson, Morden Park Gardens, Mitcham, and Mr. James Udale, Caterham, were invited to lecture upon the present requirements of the Chrysanthemum. Excellent practical addresses were delivered by both cultivators; they were received with much applause, and numerous pertinent questions were asked and answered. Unanimous votes of thanks were accorded to the lecturers, and general satisfaction were expressed with a most agreeable and profitable evening. For the admirable arrangements, Mr. Arthur Hill, Chairman; Mr. Wm. Butler, Hon. Secretary; and Mr. R. Ballantine, Chairman of the National Chrysanthemum Society, were mainly responsible, and to them the credit of the success is due.

— THE Committee of the CROYDON HORTICULTURAL SOCIETY are to be congratulated on originating a "Rose Fair" in aid of the Gardeners' Orphan Fund. It has been since adopted by other Societies, and proved successful. Last year at Croydon the sum of £15 was realised, this year there was a little falling off on account of the wet morning and the lateness of the Rose season, £12 5s. being the total receipts. Mrs. Gunner, the wife of the Chairman of the Committee, presided at the stall. Thanks are due to her and the donors of the flowers, whose names include Messrs. Smec, Cypher, Horsman, Dart, Barr & Son, Cheal & Sons, Peed & Sons, Butcher, Cooper, Box, Slater, Glover, Rodbourn, Glasscock, Cummins, Penfold, Pawle, Bethune, Budd, Mawley, Slaughter, West, C. J. Salter, and others.

— MR. W. WATSON of Kew obliges us with the following additional note on PRIMULA IMPERIALIS, figured in last week's Journal. "Primula prolifera is a Himalayan plant which was introduced by the late Dr. J. Anderson Henry, and flowered at Kew in 1884, when it was figured in the *Botanical Magazine*. At that time Sir Joseph Hooker considered this and the plant found only on the mountains of Java, and named P. imperialis by a Dutch botanist, to be one and the same species. But he no longer holds that opinion after having seen the two plants side by side in cultivation at Kew. True,

P. prolifera is small and weedy as compared with P. imperialis. P. imperialis has very large leaves and a flower scape from 3 to 5 feet in height. The colour of the flowers is deep, almost orange, yellow. The plant fully merits its specific name."



#### ROSE SHOWS.

- July 9th (Thursday).—Bath and Woodbridge.  
 „ 11th (Saturday).—Eltham, New Brighton, and Reigate.  
 „ 14th (Tuesday).—Wolverhampton (a three-days Show).  
 „ 15th (Wednesday).—Ealing.  
 „ 16th (Thursday).—Hereford (N.R.S.), Bedford, H'ensburgh, and Trentham.  
 „ 17th (Friday).—Ulverston.  
 „ 18th (Saturday).—Manchester.  
 „ 21st (Tuesday).—Christleton and Tibshelf.  
 „ 23rd (Thursday).—Halifax and Worksop.  
 Aug. 1st (Saturday).—Ripley (Derby).

#### THE CRYSTAL PALACE SCHEDULE.

I AM much obliged to "J. B." for the courteous tone of his letter toward myself. He says the question which we debated in the Journal last year is "still unsettled." I imagine, on the contrary, that it has not yet become unsettled. I begged him, and those who thought with him, to bring the matter up at the N.R.S. general meeting, but as it was not mentioned it remains settled, I take it, by the restrictions imposed as before.

I still think his view of the matter would be much the most unfair. He speaks of exhibitors of twenty-fours coming down to twelves, and twelves coming down to sixes, and asks "what is the six exhibitor to do?" Well, at all events he is not precluded from showing at all, whereas many large growers, if forced to enter in the highest classes, would be in this position in a season like the present, and thus those who had expended the most in time, money, labour, brains, experience, &c., would be worse treated than those who had placed the least amount of similar capital in the matter. He says that the small grower "has no guarantee that his fellow competitors shall be men of his own calibre" under the present arrangements; but, if I understand him right, if things were as he would have them, the large grower would have no guarantee that he would be allowed to exhibit at all.

He "hoped to see me in my old place." At all events, it was too late for repentance when I saw his letter; but I was set wondering what "my old place" was. I have shown in six, nine, twelve, twenty-four, thirty-six, and forty-eight. Of these the six is certainly my "oldest place;" but if he means forty-eight, in which I showed for the first time last year, I am sure that a large majority of the members of the N.R.S. would consider it intolerable that a man should not be permitted to show, without reducing his stock, in anything but the highest class to which he has ever aspired.

If "J. B." was at the Palace he will have seen that my conscience is not burdened by having "swamped" or "wiped out" any weak grower. It seems to me obvious that everyone will show in the highest class that he thinks he can manage—the prizes are better, and the competition less keen. You can win in the higher classes with a bad Rose or two in your stand, but not in the lower ones; but you cannot show, much less win, if you have not a sufficient number of varieties out.

I still further maintain, as I have hitherto done (regretting that my personal interest in the matter should have come into the discussion), that the small growers are best able to take care of their Roses against emergencies—frost, wind, drought, &c.; and must once more beg "J. B." to bring up the matter at the general meeting if he thinks he has a grievance.—W. R. RAILLEM.

#### SUCCESS IN TOMATO CULTURE—CHECKING THE DISEASE.

I HAVE been unable to write sooner to thank you for your kind and prompt reply to my inquiry about Tomatoes. The delay, however, has given me time to test so far the remedy you gave, and I am glad to say that I think we have got the better of the disease, and that the Worthing growers' remedy is on the right lines. We could not raise the temperature to 80°, but kept the house as warm as we could, and also perfectly dry. You did not say if the ventilators had to be kept close to get the temperature up to this high figure. I think it would be an error to close the house entirely. We are very strong advocates of fresh air, and you would be surprised to find how well our plants do with so little fire heat. We planted out a house 300 feet long about the middle of April, and have grown the plants without any fire heat.

We were very successful last year. From 700 plants we gathered 2½ tons from the middle of July to the middle of February—seven months—all on single stems, and our longest plant would not be more



than 7 feet high. From some plants we had over eighty fruits 4 feet from the ground. All were smooth-skinned, and averaged 10d. per lb. We topped the market from first to last. Our fruit was admitted on all hands to be the finest ever seen in Glasgow. We have repeatedly obtained as much as 6d. per lb., more than any other Tomatoes sold at the same time. Last year being our first year, the result was very encouraging. We have 16,000 square feet more glass this year, and even though we are not so successful we intend going ahead on a large scale, and shall be glad to see any of the staff of the old Journal at any time. — DUNCAN BUCHANAN, *Forth Vineyard, Kippen, by Stirling.*

[We have times out of number warned against a close moist atmosphere for Tomatoes, and the lower the temperature the drier the air should be. The fruits referred to must have been remarkably fine. We are both glad to hear of your success and obliged by your experience in conquering the disease.]

### LAXTON'S SCARLET QUEEN STRAWBERRY.

MR. LAXTON has sent us better fruits of this new Strawberry than those referred to on page 510. The frost destroyed many of the early blooms, and the largest fruit gathered is represented in the illustration. Scarlet Queen, as before stated, is the result of a cross between Noble and King of the Earlies, the former the pollen parent, and combines the good flavour of the latter with a great addition to its size. The foliage is very large, resembling that of the American variety Sharpless, the pollen parent of Noble, and the character thus transmitted. The fruit of Scarlet Queen is even and symmetrical in shape. Seeds small and rather deeply embedded, colour reddish scarlet, flesh pale red throughout. The flavour is excellent, having some trace of that of the Hautbois. The raiser of Scarlet Queen regards it as a valuable early Strawberry. It ripened at Bedford this year on 20th of June without any protection.

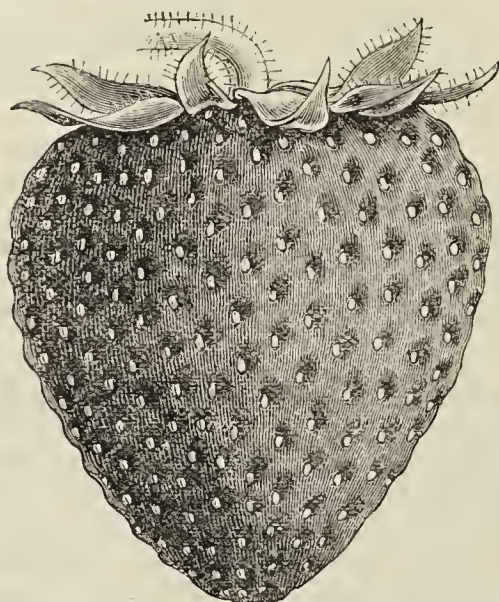


FIG. 5.—LAXTON'S SCARLET QUEEN STRAWBERRY.

### SHOWS.

#### THE NATIONAL ROSE SOCIETY.—JULY 4TH.

THE metropolitan Exhibition of this Society was held at the Crystal Palace, Sydenham, on Saturday last, July 4th, and though it would not bear comparison with many of its predecessors, yet for such a season it was an agreeable surprise in regard to quantity if not in quality. In all respects it was, however, superior to what many had expected to find, and proved at least that any alteration of date would have resulted in but a doubtful advantage. It is strange how rapidly Roses develop in a few fine July days, and had it not been for the storms experienced in some districts the display would have been both larger and better, notwithstanding the earlier adverse season influences.

The entries were not so numerous in some of the large classes, but, judging by our hurried notes, there must have been nearly 4500 blooms in competition, and this is a considerable total. Few stands were remarkable for their evenness, and instances were frequent where it was clear that much difficulty had been experienced in completing the number required by the schedule. Yet some remarkably fine blooms stood out conspicuously in several cases, and the four premier blooms were of exceptional merit. Messrs. Paul & Son's *Gustave Piganeau* and Mr. Prince's *Souvenir de S. A. Prince*, as the best H.P. and Tea respectively in the nurserymen's classes, were grand flowers, especially the first-named. Then, too, Mr. Knight's *Général Jacqueminot* and Mr. Tate's *Madame Cusin*, which gained similar honours in the amateurs' classes, were magnificent blooms, and probably will not be surpassed this season.

During the afternoon the Show was crowded to excess, a continuous procession of visitors four or five deep passing by the tables, and patiently waiting for hurried and imperfect glances at the blooms. Fortunate were those who attended earlier in the day, for it soon became almost impossible to obtain a satisfactory inspection. If any doubt existed respecting the popularity of the Rose it would have been effectually removed by a journey to the Crystal Palace Show, and all the officials of the Society deserve to be congratulated upon the large measure of success which attended their efforts in maintaining the credit of the Queen of Flowers.

#### THE NURSERYMEN'S CLASSES.

The entries in the great class for seventy-two blooms, for which the National Rose Society's challenge cup is in competition, were three only. Last year's winner, Mr. Frank Cant, was unable to compete, as

he could only bring together sixty varieties. To be unable to even make a struggle for retaining the trophy must have been a great disappointment to him. His cut-backs suffered severely from the Whitsuntide frosts. In such a season as the present the task of mustering presentable blooms of seventy-two varieties assumes its most serious proportions. Messrs. Harkness & Sons, the winners in 1889, were also noticeable absentees. They had hardly a bloom out, even on cut-backs, and were consequently compelled to come up empty handed. This was worse even than last year, when the season partially threw them out of court, and is very hard fortune for the great Yorkshire growers. It was quickly noticeable that the blooms staged were distinctly below the average in point of quality. They lacked size, form, and cleanliness, the storms just before the Exhibition having evidently marked them. The colours, too, were not so bright as usual. There were perhaps not many points between the first and second prize stands, and the contest was an interesting one, eventually resulting in a well-earned and popular victory for the veteran Colchester grower, Mr. B. R. Cant, who had not tasted the sweets of victory in the great class since 1886, and it may be interesting to note that this made his sixth win. Considering the backwardness of the season and the inclement weather his exhibit was a most meritorious one. He staged the following varieties. Back row: *Alphonse Soupert*, a large bloom in splendid colour; *Earl Dufferin*, *Merveille de Lyon*, *Madame Isaac Pereire*, *Captain Christy*, a lovely bloom, but slightly soiled; *Cheshunt Hybrid*, *Devoniensis*, *Marie Baumann*, very good; *Paul Neyron*, *Exposition de Brie*, *Duchesse de Vallombrosa*, *Duke of Edinburgh*, *Anna Ollivier* (the last four all excellent), *John Hopper*, *Souvenir d'un Ami*, *Xavier Olibo*, *La France*, *Madame C. Joigneaux*, *Baroness Rothschild*, *Général Jacqueminot*, very good and richly coloured; *Mons. Noman*, *Prince Arthur*, *Madame Gabriel Luizet*, and *Ulrich Brunner*. Middle row: *Duke of Wellington*, *Maréchal Niel*, *Marie Verdier*, *Madame Lacharme*, *Alfred Colomb*, *Lady Mary Fitzwilliam*, *Baron de Bonstetten*, *Catherine Mermet*, *Chas. Lefebvre*, *Madame Hippolyte Jamain*, *Mrs. John Laing*, *Madame Lambard*, *Pride of Waltham*, *Moire*, *Auguste Rigotard*, *Madame Bravy*, a charming flower; *Fisher Holmes*, fresh and bright; *Etoile de Lyon*, *Annie Laxton*, *Souvenir d'Elise Vardon*, *Dupuy Jamain*, very fine indeed; *Madame Willermoz*, *Mons. Alfred Dumesnil*, and a good example of *Madame de Watteville*. Front row: *Souvenir de Paul Neyron*, *Louis Van Houtte*, *Caroline Kuster*, *Countess of Rosebery*, *Comtesse de Nadaillac*, *Eclair*, *Cleopatra*, *Victor Hugo*, *Princess of Wales*, *Victor Verdier*, *Niphetos*, *Prince Camille de Rohan*, *Jean Ducher*, *Madame Cusin*, *Boule d'Or* (both very good), *Abel Carrière*, *Innocente Pirola*, *Dr. Sewell*, *Francisca Krüger*, *Madame Victor Verdier*, *Ernest Metz*, a charming bloom; *Jean Liabaud*, *Madame Hoste*, and a capital *A. K. Williams*. The second prize flowers of Messrs. Paul & Son, *The Old Nurseries*, *Cheshunt*, were small, but otherwise were in perfect condition, being delightfully fresh and clean. Especially good were *Souvenir de S. A. Prince*, *Beauty of Waltham*, *Madame Gabriel Luizet*, *Duke of Edinburgh*, and *Ulrich Brunner*. *Mrs. John Laing* was very good, and there was a splendid bloom of *Gustave Piganeau*. Messrs. D. Prior & Son, *Myland Nursery*, *Colchester*, were third, having *Général Jacqueminot*, *Star of Waltham*, *Madame Verdier*, and *Prince Arthur*, very good.

There were only two stands of forty-eight trebles, but they made a bold and attractive display. Mr. B. R. Cant was again successful, and he once more exhibited blooms of great comparative excellence. His varieties were as follows—Back row: *La France*, *Etoile de Lyon*, *Madame C. Joigneaux*, *Madame Gabriel Luizet*, very bright; *Alfred Dumesnil*, *Souvenir d'Elise Vardon*, *Alphonse Soupert*, *Rubens*, *Auguste Rigotard*, *Niphetos*, *Xavier Olibo*, *Madame de Watteville*, a splendid trio; *Ulrich Brunner*, *Maréchal Niel*, *John Hopper*, *Souvenir d'un Ami*, *Prince Camille de Rohan*, *Mons. Noman*, *Général Jacqueminot*, very fine; *Caroline Kuster*, *Heinrich Schultheis*, *Innocente Pirola*, *Jules Margottin*, and *Pride of Waltham*. Front row: *Duke of Edinburgh*, *Madame Lacharme*, *Catherine Mermet*, *Annie Laxton*, *Marie Van Houtte*, *Marie Baumann*, *Capt. Christy*, *Exposition de Brie*, *Madame Bravy*, *Prince Arthur*, *Duchesse de Vallombrosa*, *A. K. Williams*, *Souvenir de S. A. Prince*, *Fisher Holmes*, *Souvenir de Paul Neyron*, *Dr. Sewell*, *Devoniensis*, *Alfred Colomb*, *Hon. Edith Gifford*, *Madame Cusin*, *Mrs. John Laing*, *Abel Carrière*, *Violette Bouyer*, and *Dupuy Jamain*. Messrs. Paul & Son again came second with blooms of a corresponding character to those in the previous class, the best examples being perhaps *Madame Montet* (though small), *Niphetos*, *Beauty of Waltham*, *Prince Arthur*, *Général Jacqueminot*, *Alba Rosea*, *Duke of Edinburgh*, *Mrs. John Laing*, and *A. K. Williams*.

Competition was much brisker with forty-eight single blooms, distinct, eight competing, and Mr. Chas. Turner, *Royal Nurseries*, *Slough*, proved to be the winner. The stand included some very good examples, though others were somewhat weather-worn. Taken collectively it was a fine stand. The varieties were—Back row: *Duke of Edinburgh*, *Capitaine Christy*, *Prince Arthur*, *Grace Darling*, *Dupuy Jamain*, *Catherine Mermet*, *Ulrich Brunner*, *Lady Mary Fitzwilliam*, *A. K. Williams*, *Mrs. J. Laing*, *Marie Baumann*, *La France*, *Maurice Bernardin*, *Beauty of Waltham*, *Niphetos*, and *Heinrich Schultheis*. Middle row: *Maréchal Niel*, *Auguste Rigotard*, *Caroline Kuster*, *François Louvat*, *Abel Grand*, *Prince Camille de Rohan*, *Her Majesty*, *Alfred Colomb*, *Baroness Rothschild*, *Reynolds Hole*, *Madame Gabriel Luizet*, *Jean Soupert*, *Comtesse de Nadaillac*, *Séateur Vaisse*, *Marquise de Castellane*, and *Dr. Andry*. Front row: *Vicomte Vigier*, *Souvenir d'Elise Vardon*, *Sultan of Zanzibar*, *François Levet*, *Penelope Mayo*, *Merveille de Lyon*, *Victor Hugo*, *Madame Eugène Verdier*, *Xavier*



Olibo, Souvenir d'un Ami, Fisher Holmes, Hon. Edith Gifford, Duke of Wellington, The Bride, Abel Carrière, and François Michelin. Second place was taken by Messrs. G. & W. Burch, Peterborough, with smaller flowers in very good condition. Mr. G. Prince, 14, Market Street, Oxford, was a close third, and Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, fourth. The competition was very close in this class.

Mr. G. Mount, Canterbury, took the leading place from three opponents with twenty-four singles, and his stand was one of the best in the Show. The blooms were of good size, fresh and finely coloured. The varieties were—Back row: Marie Baumann, La France, Camille Bernardin, Capt. Christy, Duke of Edinburgh, Madame Gabriel Luizet, Ulrich Brunner, and Mrs. J. Laing. Middle row: Her Majesty, a beautiful bloom; Alfred Colomb, Baroness Rothschild, A. K. Williams, Lady Mary Fitzwilliam, Dupuy Jamain, Marguerite de St. Amand, and Louis Van Houtte. Front row: Général Jacqueminot, Souvenir d'Elise Vardon, Abel Carrière, Dr. Andry, Eugène Fürst, Violette Bouyer, Xavier Olibo, and Comtesse d'Oxford. A very creditable lot of flowers from Mr. J. Mattock, New Headington, Oxford, secured him the second prize, and Mr. Eric F. Such, Maidenhead, was third.

A splendid display was made with twenty-four triplets, there being eight stands of them. The competition was close, and the judging a troublesome process. Mr. Prince was eventually adjudged the winner for a grand lot, comprising in the back row Fisher Holmes, Niphetos, Duke of Teck, Marie Van Houtte, Victor Hugo, Madame Gabriel Luizet, Baron A. de Rothschild, Vicomtesse Folkestone, Horace Vernet, Lady M. Fitzwilliam, Duke of Edinburgh, and La France; in the front row Capt. Christy, Mons. E. Y. Teas, Francisca Krüger, Prince Camille de Rohan, Souvenir de S. A. Prince, Marie Baumann, Catherine Mermet, Auguste Rigotard, The Bride, Louis Van Houtte, Princess of Wales, and A. K. Williams. Mr. G. Mount had some excellent examples in his second prize stand. Mr. Turner was a close third, and Messrs. G. Cooling and Sons, Bath, fourth.

The medal for the premier H.P. in the nurserymen's classes was awarded to Messrs. Paul & Son for *Gustave Piganeau* in their second prize stand of seventy-two. It is a new variety of last year, and Messrs. Paul's bloom was so beautiful that we represent it as well as time would permit on page 25. The variety is likely to be largely sought after. In general character it is something between Auguste Rigotard and Comtesse d'Oxford, but distinct from either; perfect in form, with substantial petals, and of a clear lustrous red colour. The growth of the plant is vigorous and the wood stout.

#### TEAS AND NOISETTES.

The nurserymen's Teas produced many lovely stands. The winning one in the class for twenty-four blooms, shown by Mr. G. Prince, approached that successful Tea grower's finest style. The blooms were charming in the extreme. The varieties represented were:—Back row: Souvenir d'un Ami, Souvenir de S. A. Prince, Belle Fleur d'Anjou, Maréchal Niel, Madame Cusin, The Bride, Comtesse de Nadaillac, and Innocente Pirola. Middle row: Mrs. Jas. Wilson, Jules Finger, Marquis de Sanina, Alba Rosca, Princess of Wales, Catherine Mermet, Etoile de Lyon, and Madame de Watteville. Front row: Rubens, Hon. Edith Gifford, Jean Ducher, Marie Van Houtte, Cornelia Koch, Niphetos, Madame M. Arnaud, and Caroline Kuster. This appeared to be the only one in competition. With eighteen blooms there were seven entries, and Mr. J. Mattock won with a charming stand, comprising the following:—Back row: Niphetos, a lovely bloom; Catherine Mermet, Madame Willermoz, Rubens, Amazon, and Souvenir d'un Ami. Middle row: Adam, The Bride, Comtesse de Nadaillac, Hon. Edith Gifford, Souvenir de Thérèse Levet, splendidly coloured; and Madame Welche. Front row: Madame H. Jamain, Marie Van Houtte, Anna Ollivier, Souvenir d'Elise Vardon, Jean Pernet, and Jean Ducher. Messrs. Burrell & Co. were second, also with a delightful collection of blooms, but smaller than those in the first prize stand. Messrs. Paul & Son, Cheshunt, were third, and Mr. Chas. Turner fourth.

Six competed with twelve of any Tea or Noisette, Mr. B. R. Cant winning with a lovely box of Madame de Watteville, Mr. Prince second with a charming lot of The Bride, Mr. Mattock third with the Hon. Edith Gifford, and Mr. Turner fourth with Catherine Mermet. Teas in trebles, eighteen varieties, brought four stands, and the best was that of Mr. G. Prince, a remarkably beautiful one. The varieties were:—Back row: Princess of Wales, Souvenir de S. A. Prince, Catherine Mermet, The Bride, Madame Cusin, Comtesse de Nadaillac, Madame de Watteville, Innocente Pirola, and Jean Ducher. Front row: Alba Rosea, Rubens, Caroline Kuster, Francisca Krüger, Hon. Edith Gifford, Etoile de Lyon, Comtesse de Panisse, Marie Van Houtte, and Souvenir d'un Ami. A charming collection from Mr. Mattock took the second prize, and the third and fourth went respectively to Mr. G. W. Piper, Uckfield, and Messrs. Keynes, Williams & Co., Salisbury.

#### AMATEURS' CLASSES.

In the larger classes devoted to amateurs the competition was much more limited than in previous years, nor could it be said that the general quality was so high as we have been accustomed to seeing, yet several of the leading stands were welcome surprises in such an exceptional season, and brightness with purity of colour made amends for want of size and substance. In some instances heavy storms of the preceding day had told disastrously upon the blooms, injured petals and irregularity being conspicuous; but even with difficulties like these to contend with fairly creditable stands had been formed in several cases, and it was

fortunate that it requires a good deal to damp a rosarian's courage, or the Show would have occupied a much smaller space.

The first class of division C (class 6) was that for forty-eight distinct single trusses, in which the premier award was the sixty-guinea silver challenge trophy offered by nurserymen. There were only five competitors, but the skill of the Judges was rather severely tested with regard to the two or three leading stands, though after mature deliberation the coveted honour was adjudged to Mr. E. B. Lindsell, Bearton, Hitchin, who had extremely bright and fresh blooms, with here and there a weak one, proving how difficult it had been to cut so large a number. The varieties were Xavier Olibo, very handsome; La France, Abel Carrière, Alphonse Soupert, Prince Arthur, Madame Gabriel Luizet, Alfred Colomb, Comtesse d'Oxford, Pride of Waltham, S. M. Rodocanachi, Chas. Lefebvre, Souvenir d'un Ami, Cornelia Koch, Duchess of Bedford, Duke of Wellington, Innocente Pirola, Catherine Mermet, Dr. Sewell, Comte Raimbaud, Boule d'Or, Comtesse de Nadaillac, Mdlle. Marie Verdier, Dupuy Jamain, Marie Van Houtte, A. K. Williams, Violette Bouyer, Victor Verdier, Duchesse de Vallombrosa, Rosieriste Jacobs, Caroline Kuster, Mons. Boncenne, Souvenir d'Elise Vardon, Duke of Edinburgh, Marquise de Castellane, Le Havre, Devonensis, Duke of Teck, Etoile de Lyon, Mrs. John Laing, Lady Mary Fitzwilliam, Duke of Albany, Annie Ollivier, E. Y. Teas, Capt. Christy, Maurice Bernardin, Heinrich Schultheis, Grand Mogul, and Marie Finger. The second place was accorded to Dr. S. B. Budd, 8, Gay Street, Bath, who had notable blooms of Reynolds Hole, Louis Van Houtte, and Mrs. John Laing in a good collection. The Rev. J. H. Pemberton, Havering-atte-Bower, Essex, was third, his blooms being of fair substance throughout; and Mr. A. Slaughter, Jarvis Villa, Steyning, was fourth with rather small blooms.

In class 7 of the same division four competitors arranged stands of blooms, and Dr. S. P. Budd succeeded in this case, taking the first prize for good examples of the following:—Marie Baumann, Mrs. John Laing, Duchesse de Vallombrosa, Louis Van Houtte, Abel Carrière, The Bride, Marquise de Castellane, E. Y. Teas, A. K. Williams, François Michelin, La France, Alfred Colomb, Prince Arthur (extra fine), Her Majesty, Madame Gabriel Luizet, and Etienne Levet. Mr. E. B. Lindsell was second; the Rev. A. Berners, Harkstead Rectory, Ipswich, third; and Mr. A. Slaughter fourth, all staging moderately good collections.

Division D also included two classes, in which the competition was still more restricted than in that just noticed, only three exhibitors entering each. With thirty-six distinct single trusses T. B. Haywood, Esq., Woodhatch Lodge, Reigate (gardener, Mr. C. J. Salter) secured the first prize, a piece of plate value 5 guineas, presented by R. N. G. Baker, Esq. The blooms were not large, but bright and fresh, and the collection was altogether one of the most even in the Exhibition. The varieties were as follows:—Pride of Reigate, very handsome, one of the best blooms we have seen of this distinct variety; A. K. Williams, La France, Etienne Levet, Exposition de Brie, Mrs. J. Laing, Horace Vernet, Madame Gabriel Luizet, Madame Victor Verdier, Marie Baumann, Capt. Christy, Countess of Rosebery, François Michelin; a bloom wrongly named Duchesse de Vallombrosa, thought to be Edward Morren; Mrs. Baker, Violette Bouyer, Marie Verdier, Dupuy Jamain, Duchesse de Vallombrosa, Duke of Teck, Duchess of Bedford, Viscountess Folkestone, Marquise de Castellane, Charles Lefebvre, Ville de Lyon, E. Y. Teas, Her Majesty, Camille Bernardin, Pierre Notting, Pride of Waltham, Dr. Andry, Comtesse de Serenye, Mrs. Laxton, Auguste Rigotard, Alba Rosea, and Comtesse d'Oxford. Col. J. H. Pitt, Turkey Court, Maidstone, was second with rather small blooms, but an excellent example of Viscountess Folkestone deserves mention. The Rev. W. H. Jackson, Stagsden Vicarage, Bedford, was third with blooms which had evidently suffered from the weather.

Class 9 was for twelve distinct varieties, three trusses of each, and Mr. Haywood was first for good blooms of Capt. Christy, Marquise de Castellane, A. K. Williams, Madame Gabriel Luizet, Marie Van Houtte, La France, E. Y. Teas, Etienne Levet, Violette Bouyer, Auguste Rigotard, Mrs. J. Laing, and Duke of Teck. Col. J. H. Pitt and the Rev. W. H. Jackson were second and third respectively.

The competition was much more brisk in division E, which also comprised two classes. Nine boxes of twenty-four distinct single trusses were staged, and A. Tate, Esq., Downside, Leatherhead (gardener, Mr. Mease), won the chief honours with a collection of blooms, good alike in substance and colour. The varieties were Alfred Colomb, La Rosière, Earl Dufferin, Madame Cusin, Merveille de Lyon, Marie Baumann, Niphetos, Ulrich Brunner, Violette Bouyer, Duchess of Bedford, Xavier Olibo, Madame Gabriel Luizet, Jean Ducher, Horace Vernet, Madame Lacharme, A. K. Williams, Madame Isaac Perrière, Charles Lefebvre, Madame Willermoz, Comtesse d'Oxford, La France, Louis Van Houtte, and Catherine Mermet. Mrs. Waterlow, Great Doods, Reigate (gardener, Mr. J. Brown), was second; E. Mawley, Esq., Berkhamstead, was third; and J. Gurney Fowler, Esq., Woodford, fourth.

For eight triplets R. E. West, Esq., Reigate, took the lead with fresh and neat blooms of Duke of Edinburgh, Dr. Andry, La France, Charles Lefebvre, Général Jacqueminot, Madame Gabriel Luizet, Madame Isaac Perrière, and A. K. Williams. Mr. A. Tate followed, Mrs. Waterlow was third, and the Rev. A. Foster Melliar, Sproughton Rectory, fourth.

Four classes were included in division F, and the competition throughout was keen, the entries being numerous in each case. In class 12 the best eighteen single trusses came from F. P. Baker, Esq., Holmfels, Reigate, who had bright but small examples of the following:—Madame Gabriel Luizet, Charles Lefebvre, Alphonse Soupert,



Earl of Pembroke, La France, Mrs. Baker, Xavier Olibo, Mrs. J. Laing, Duke of Edinburgh, Marquise de Castellane, Prince Arthur, Duchess of Bedford, A. K. Williams, Madame Victor Verdier, Pride of Waltham, Fisher Holmes, Général Jacqueminot, and Ferdinand de Lesseps. Mr. Romain, Old Windsor, took the second place. Mr. W. Narrowway, Oxford, was third, and Mr. H. Foster, North Street, Ashford, was fourth. There were five competitors. Class 13, for twelve single trusses, was well filled, no less than nine stands being entered, and Mr. R. L. Knight, Bobbing, Sittingbourne, was adjudged premier honours for beautiful blooms of the following—Etienne Levet, La France, Général Jacqueminot, a grandly developed bloom, which gained the silver medal as the premier Hybrid Perpetual in the amateurs' classes; Mrs. J. Laing, Duke of Teck, Ulrich Brunner, Madame Gabriel Luizet, Charles Lefebvre, Marie Baumann, Marie Finger, Earl of Dufferin, and Alfred Colomb. Captain Christy, Hill Green House, Stockbury, Kent, was second, a fine solid bloom of Earl of Dufferin being prominent in his stand. Mr. C. J. Grahame, Coomb Road, Croydon, was third, and Mr. J. Bateman, Rosevale, Archway Road, fourth, a good bloom of Xavier Olibo being included in his stand.

With nine single trusses (class 14) the Rev. F. S. Taylor, Littleton Vicarage, Evesham, was the premier amongst seven exhibitors, showing fresh and pleasing blooms of La France, Etienne Levet, Capt. Christy, Charles Lefebvre, Maréchal Niel, Souvenir d'Elise Vardon, Anna Olivier, Rosieriste Jacobs, and Madame Gabriel Luizet. Mr. Ernest Wilkins, Lyndhurst, Sutton, was a good second; the Rev. H. B. Biron, Hythe, was third; and Mr. A. Wallis, Farnham, fourth.

The best six single trusses (class 15) came from E. Horne, Esq., Park House, Reigate, but the blooms were small throughout the class. The varieties in the first stand were La France, Duchess of St. Albans, Ferdinand de Lesseps, Madame I. Perrière, Charles Lefebvre, and Duke of Teck. M. Hodgson, Esq., Shirley Cottage, Croydon (gardener, Mr. Shoosmith), W. D. Freshfield, Esq., The Wilderness, Reigate (gardener, Mr. Crofts), and Mrs. B. Denton, Orchard Court, Stevenage, took the remaining prizes in the order named.

Amongst eleven exhibitors in class 16, for six triplets, Mr. O. G. Orpen, Hillside, West Bergholt, Colchester, was first, showing neat examples of Madame Gabriel Luizet, Capt. Christy, Niphetos, Camille Bernardin, Souvenir d'un Ami, Maréchal Niel, D. Sewell, La France, Catherine Mermet, Madame Cusin, Général Jacqueminot, and The Bride. The other prizes were secured by Messrs. E. Wilkins, J. Parker, and F. P. Baker in the order of their names.

Six extra classes were devoted to amateurs, of which the first two (17 and 18) were for those only who had never won a prize at an exhibition of the National Rose Society, and in addition to the premier prizes a bronze medal was offered in each case. In class 17, for twelve single trusses, there were three competitors, and Mr. F. O. Devereux, High Knoll, Steyning, was placed first with creditable blooms of Mrs. J. Laing, Maurice Bernardin, Cleopatra, Eclair, Madame Lambard, Viscountess Folkestone, Rosieriste Jacobs, Catherine Mermet, Marie Van Houtte, Niphetos, Prince of Wales, and Pride of Reigate. The Right Hon. Lord Penzance, Godalming, was second; and Mr. J. de Lamare, Christchurch Road, Croydon, was third; the fourth prize being withheld.

Mr. E. Rutter, Shepperton, was first with six single trusses amongst eight competitors, showing fair blooms of Madame Gabriel Luizet, Etienne Levet, Comte Raimbaud, Marie Baumann, Earl of Pembroke, and Duke of Edinburgh. The Rev. J. R. Buchanan, Canterbury, Mr. R. W. B. Miller, Sutton, and Mr. J. Parker, Hitchin, were second, third, and fourth respectively, each staging rather small blooms. In this section Mr. Tate was the leading exhibitor in class 19 for twenty-four single trusses, and he gained the premier award—a silver cup—for handsome blooms of Louis Van Houtte, Ulrich Brunner, Her Majesty, Horace Vernet, Comtesse d'Oxford, Marie Baumann, Madame Cusin, La France, Madame Hippolyte Jamain, A. K. Williams, Innocente Pirola, Mrs. J. Laing, Violette Bouyer, François Michelin, Xavier Olibo, Marie Verdier, Charles Lefebvre, Madame Gabriel Luizet, Madame Eugène Verdier, Catherine Mermet, Duchess of Albany, La Rosière, and Général Jacqueminot. Mr. E. M. Bethune, Horsham, was second, and equal thirds the Rev. A. Foster Melliar and Mr. A. H. Gray. There were nine exhibitors.

Class 20 was for six single trusses of Roses grown within eight miles of Charing Cross, and the premier prize was at first awarded to a Croydon exhibitor, but it was subsequently discovered that this was outside the radius, and the stand was accordingly disqualified, the first prize then going to Mr. J. Bateman, who had the following varieties:—Madame G. Luizet, A. K. Williams, Xavier Olibo, Captain Christy, Etienne Levet, and Pride of Waltham. Mr. J. E. Coleby, Wimbledon, was second, and Mr. W. B. Faulkner, Wimbledon, third.

There were only three exhibitors of six new Roses, and the Rev. J. H. Pemberton was first with medium blooms of J. D. Pawle, Mrs. Wilson, Cleopatra, Lady Arthur Hill, and Maid of the Mist. The Rev. A. Foster Melliar was second, and the other prizes were withheld.

Class 22, for six trusses of any Hybrid Perpetual, was one of the best filled in the Show, no less than seventeen stands being contributed. Mr. Knight was awarded first prize for Duke of Edinburgh, very bright and of excellent substance, an equal award going to Mr. A. Tate for La France, also very fine. Mr. Narrowway was third, and Mr. Horne fourth with the same variety.

#### TEAS AND NOISETTES.

The amateurs' classes for Teas were admirably represented, and the blooms in several of the leading stand were of great merit, though there

was, of course, a considerable falling off in some of the third and fourth prize exhibits. In class 27, Mr. A. H. Gray of Bath following up his previous successes this year, won the 25-guinea challenge trophy with fresh and finely developed blooms of the under-mentioned:—Alba Rosea, Maréchal Niel, Marie Van Houtte, Francisca Kruger, Catherine Mermet, Souvenir d'Elise Vardon, Caroline Kuster, Edith Gifford, Jean Ducher, Innocente Pirola, Comtesse de Nadaillac, Anna Olivier, Souvenir d'un Ami, Niphetos, Comtesse Panisse, The Bride, Madame Welche, and one from which the name was misplaced. The Rev. H. Berners was a good second, the Rev. Foster Melliar third, and the Rev. F. R. Burnside, Hereford, fourth with fresh and neat but small blooms.

In class 28, for twelve single trusses, Mr. Lindsell was successful amongst eight competitors in taking the premier award, staging good examples of Etoile de Lyon, Anna Olivier, Marie Van Houtte, Rubens, Princess of Wales, Souvenir d'Elise Vardon, Caroline Kuster, Jean Ducher, Comtesse de Nadaillac, Niphetos, and Catherine Mermet. Messrs. Gray, Haywood, and Colonel Pitt were the remaining prizetakers in the class.

Ten boxes of nine Teas were contributed in class 29, and Mr. O. G. Orpen gained the chief position with substantial blooms of Caroline Kuster, Niphetos, Souvenir d'Elise Vardon, Souvenir de Paul Neyron, Catherine Mermet, Rubens, Maréchal Niel, The Bride, and Souvenir d'un Ami. Mr. Tate was a close second, his best bloom being a wonderful specimen of Madame Cusin, for which the silver medal was awarded as the best Tea Rose in the amateurs' classes. In size, substance, breadth of petal, and depth of colour it was remarkable. We hope to give an illustration of it in an early issue. Mr. Crofts was third, and the Rev. Alan Cheales, Brockham Vicarage, fourth.

The small classes gave the greatest number of exhibitors a chance of competing, and in class 30, for six single trusses, seventeen boxes were staged. The Rev. F. S. Taylor had the best blooms, representing the varieties The Bride, Anna Olivier, Hon. Edith Gifford, Maréchal Niel, Niphetos, and Marie Van Houtte. Mr. E. Mawley followed closely, Souvenir d'Elise Vardon and Comtesse de Panisse being notable in his stand. The Rev. H. B. Biron was third, and the Rev. J. R. Buchanan fourth.

Class 31, for twelve distinct varieties, three trusses of each, brought six competitors, and the first prize, consisting of a piece of plate value 5 guineas, offered as a memorial of the late Hon. and Rev. J. T. Boscawen, was adjudged to Mr. A. H. Gray, who had excellent examples of the following:—Alba Rosea, Francisca Kruger, Maréchal Niel, Madame Cusin, Comtesse Panisse, The Bride, Comtesse de Nadaillac, Souvenir d'un Ami, Edith Gifford, Caroline Kuster, Marie Van Houtte, and Catherine Mermet. The Rev. H. Berners took the second place, the Rev. W. H. Jackson was third, and Mr. Slaughter fourth.

With six varieties three trusses of each (class 32), the Rev. A. Foster Melliar was first for good blooms of Princess of Wales, Madame Hoste, Etoile de Lyon, Marie Van Houtte, Francisca Kruger, and Madame de Watteville; Mr. Lindsell was second; and Col. J. H. Pitt third, these being the only exhibitors. For six single trusses of any Tea or Noisette Mr. Gray was first with Maréchal Niel, followed by Mr. Grahame, the Rev. H. Berners, and Mr. Bethune in the order named. There were nine competitors.

#### OPEN CLASSES.

The majority of these were for stands of twelve blooms of one variety, and while some were not represented at all or by few exhibits, in others the competition was good, and the blooms excellent. Taking the classes in the order of the schedule, 34 was for twelve blooms of any yellow Rose except Maréchal Niel, and the only exhibitor, Mr. G. Prince, was awarded the first prize for clean, even, but not large blooms of Comtesse de Nadaillac.

For any white Rose except Niphetos Messrs. Dickson & Sons, Royal Nurseries, Newtownards, were first with a dozen superb blooms of Marguerite Dickson, white, a faint blush in the bud, delicate, beautiful in form, and of good substance. Mr. A. H. Gray followed with Alba Rosea, very fresh and good. Mr. B. R. Cant was third with the same, and Messrs. D. & W. Croll, Dundee, fourth for Rubens.

For any crimson Rose except Marie Baumann and A. K. Williams Mr. B. R. Cant was first with Duke of Edinburgh, extremely rich in colour. Messrs. Paul & Son were second with Prince Arthur, Mr. J. Parker third with Duke of Teck, and Messrs. H. Low & Co., Enfield, fourth for Earl of Dufferin, rather small.

The next class was that for any dark velvety crimson Rose, such as Prince Camille de Rohan, with which variety Messrs. Low & Co. gained the premier prize. Mr. G. Prince followed with Prince Arthur, Mr. G. Mount with Fisher Holmes, and Mr. B. R. Cant with the last named variety.

Maréchal Niel were not very grandly shown in class 38 devoted to it, the premier bloom from Mr. A. H. Gray being much the best. Messrs. B. R. Cant and G. Prince were second and third, these being the only exhibitors. Fairly good blooms of Marie Baumann won Dr. Budd the first prize in class 39, Messrs. Turner and Mount following. Dr. Budd was also first in the next class for Mrs. John Laing with even blooms of moderate size, equal second prizes going to Messrs. C. Turner and Cooling & Sons.

The variety A. K. Williams was not well represented, most of the blooms being rather rough and damaged. The prizes were awarded to Messrs. Paul & Son, Low & Co., and Piper in that order. Excellent blooms of Niphetos from Messrs. B. R. Cant, G. W. Piper, and G. & W. Burch also secured the prizes as named. Her Majesty and Ernest Metz were not



represented by a single exhibit in their classes. For any Hybrid Perpetual not named in preceding classes Mr. Turner was first with *La France*, Dr. Budd second with the same variety, and Messrs. Dickson and Sons third with *Madame Gabriel Luizet*.

New Roses were not very numerous, and the gold medal was not awarded this year. In class 46, for twelve trusses of any new Rose, Messrs. Dickson & Sons, Newtownards, were first with a box of *Margaret Dickson*, the beautiful Rose already noted; Messrs. Paul & Son were second with the *Bourbon Mrs. Paul*, which was accorded special honours last year, and this year the blooms were not at their best, the date being too early. Messrs. W. Paul & Son followed with the Hybrid Tea *White Lady*, which was rather too fully expanded. In class 47, for twelve new Roses, only two prizes were awarded—namely, first and

Mr. E. F. Such, Maidenhead, were second and third, each showing well. In the amateurs' class for eighteen bunches of garden Roses, Mr. C. E. Cuthell, the Rev. J. H. Pemberton, and Mr. A. Tate were the prize-takers. With twelve bunches of Roses for buttonholes, not less than six varieties, Mr. J. Mattock was first with charming buds of *Rubens*, *Marie Van Houtte*, *Madame Lambard*, *Amazone*, *Ma Capucine*, *Niphetos*, *W. F. Bennett*, *Anna Olivier*, *W. Allen Richardson*, and *Madame de Watteville*. Mr. A. Evans was second, and Messrs. Cooling & Son third.

#### MISCELLANEOUS.

The non-competing exhibits were numerous and excellent, occupying a good part of the centre transept. Messrs. W. Paul & Son, Waltham Cross, had a magnificent collection of old and new Roses, arranged in



FIG. 6.—ROSE GUSTAVE PIGANEAU (see page 23).

third, to Messrs. Paul & Son and Cooling & Son respectively. The premier box comprised these varieties—*White Lady*, *J. D. Pawle*, *Souvenir de S. A. Prince*, *Marchioness of Lorne*, *Ernest Metz*, *Sappho*, *Bruce Findlay*, *Mrs. Paul* as the most noteworthy. In class 49, for three trusses of any new seedling Rose, Messrs. Dickson & Sons showed *Marchioness of Dufferin*, full soft pink flowers, but rather damaged. This variety was highly commended, but no other award was made.

#### GARDEN ROSES.

An interesting portion of the Exhibition was formed by the classes for garden Roses and Roses for buttonholes, and they attracted fully as much attention from the visitors as any of the other sections. In class 50, for thirty-six bunches of garden Roses, Messrs. Paul & Son were first with a beautiful collection, including many fine Moss Roses, old climbers, *Polyanthas*, and others. Messrs. G. Cooling & Son, and

front of the orchestra. Mr. Rumsey also had a large collection of Roses. Messrs. J. Laing & Sons, Forest Hill, showed the most tasteful and effective group of Tuberous Begonias they have ever exhibited. Messrs. Barr & Son, Covent Garden, had a great display of hardy flowers, occupying eight tables. Mr. T. S. Ware, Tottenham, exhibited a most beautiful and interesting group of hardy flowers, filling tables 90 feet long in front of the theatre. The same firm also had a group of Begonias. Messrs. J. Cheal & Son, Crawley, had a fine collection of hardy flowers; Messrs. Dobbie & Co., Rothesay, staged numbers of handsome Pansies from their extensive collections; Messrs. Carter & Co., High Holborn, showed a group of miniature Cacti; Mr. C. Turner, Slough, had a box of Carnation flowers; Messrs. Reid and Bornemann, Lower Sydenham, had some tasteful wreaths and good Tuberous Begonias; while Mr. E. F. Such, Maidenhead, contributed a large and choice collection of hardy flowers.



## MAIDSTONE.—JUNE 29TH.

AN early fixture at such a season as the present has been was in itself a discouraging element, but more especially was this the case where the frosts had been unusually severe, and such had been the case with Maidstone; not only had the winter frosts and snow told severely, but that cruel one of Whitsunday, which will ever make this year a memorable one for horticulture, had done immense damage—the trees were severely crippled, and some exhibitors were unable to put in any appearance, consequently the Show was both moderate in extent and in quality. This is always to be regretted, especially where the Society is a struggling one, as here; and because on this occasion it had the honour of the Dean of Rochester acting as one of the Judges, and one would have wished that he had more and better Roses to criticise; but he is not one to despise the day of small things, and perhaps the fact that he acted as Judge may be a fillip to the Society. Colonel Pitt is evidently anxious to keep up the traditions of Turkey Court, but the fates—i.e., the weather—were against him this year; we must only hope that he may be more happy another year.

As the Maidstone Club is exclusively an amateurs' one we see none of those large classes which so help to fill up and add beauty to an exhibition. The room where it was held (the Corn Exchange) is a well-lighted one, and on a dull day is excellent; but, as on this occasion, there was after the early morning bright sunshine, it streamed down the large skylight, to the great detriment of the flowers, which very soon began to expand under its genial influence, and even to cast their eyes to it.

In class 1, for twelve Hybrid Perpetuals and twelve Teas (a very pretty class), the first prize was awarded to R. L. Knight, Esq. of Bobbing Court, Sittingbourne, for La France, Duke of Wellington, Madame G. Luizet, Charles Lefebvre, Le Havre, Madame Hippolyte Jamain, Marie Baumann, Hon. Edith Gifford, Souvenir d'un Ami, A. K. Williams, Catharine Mermet, Grace Darling, Maréchal Niel, Reine Marie Henriette, Madame Lambard, Marie Van Houtte, Souvenir de Thérèse Levet, Innocente Pirola, Souvenir de Gabriel Drevet. Colonel Pitt was second, and Mr. P. R. Burnand third. In the class for eighteen distinct Mr. F. Warde was first with Madame Victor Verdier, A. K. Williams, La France, Prince Arthur, Duchesse de Vallombrosa, Louis Van Houtte, Sénateur Vaisse, Princess Mary of Cambridge, Camille Bernardin, Charles Lefebvre, Dr. André, Reynolds Hole, Dupuy Jamain, Ulrich Brunner, Edith Gifford, Earl of Pembroke, and Marie Baumann. Mr. R. W. Knight was second, and Mr. R. E. West of Reigate third.

In the class for twelve distinct, Mr. F. Warde was again first with Louis Van Houtte, Baroness Rothschild, Prince Arthur, Ulrich Brunner, La France, Abel Carrière, Beauty of Waltham, Madame Cusin, Camille Bernardin, Marie Fougit, Marquise de Castellane, Reynolds Hole. Mr. R. L. Knight was second, and the Rev. H. B. Biron third. For twelve Teas, Noisettes, the Rev. H. B. Biron was first with Souvenir d'Elise Vardon, Innocente Pirola, Comtesse Panisse, Anna Ollivier, Madame Bravy, Francisca Kruger, Madame Hoste, Souvenir d'un Ami, Devonensis, Marie Van Houtte, Souvenir de Mons. Pernet, Princess Beatrice. Mr. R. L. Knight was second, and Colonel Pitt third. In the class for six trebles, Mr. F. W. Warde was first with Xavier Olibo, Violette Bouyer, Duke of Wellington, La France, Le Havre, Lady Mary Fitzwilliam. In the class for six Teas Dr. Ashurst was first with Jean Ducher, Niphotos, Souvenir d'un Ami, Jules Finger, Madame Hoste, Madame de Watteville. Mr. H. Murton was second.

For six varieties Dr. Ashurst was first with Star of Waltham, Marquise de Castellane, Antoine Ducher, Heinrich Schulties, Crown Prince, and Horace Vernct. For six Teas Mr. H. Monkton was first with Francisca Kruger, Madame Caroline Kuster, Madame Bravy, Souvenir de Thérèse Levet, and Homère. In the class for bouquets Mrs. Biron displayed her usual taste, and carried off the first prize. Miss E. Bensted was second, and Miss Amies third. For buttonhole bouquets Miss Bensted was first, Mrs. Biron second, and Miss Bryant third. For shoulder-knots Miss Bryant was first, Miss Davy second, and Miss Cutbush third.—D., Deal.

## CANTERBURY.—JUNE 30TH.

It is sometimes said that cricket is the most uncertain game in the world, but I am not at all sure that Rose showing will not equal it in this point, and for the same reason—both depend so much on the state of the weather. A bad wicket puzzles the batsman, and bad and cold weather especially baffles the Rose grower. I have never seen a greater proof of this than in the Maidstone and Canterbury Shows of this year. Anyone attending the former would have said, "I shan't trouble myself about going to Canterbury as there cannot be any Roses," yet so far was this from being the case that I think it was one of the best shows I have seen during its thirteen years of existence, so great a difference had the twenty-four hours of genial weather made in the character of the flowers, for it must be noted the exhibitors and the chief prizewinners were the same, as a comparison of the two lists will show. Mr. Knight, Mr. Warde, and Mr. Biron were in both places, but in very different form.

The Show was held in the Foresters' Hall, which is a somewhat dark room, but as the day was bright this was not of so much consequence, although I think it a pity that the three best stands of amateurs' Roses were in the darkest corner of the room, where it was almost impossible to see the full beauty of the flowers exhibited, nor, I may add, their defects, if they had any. Here the contest was a very keen one between Mr. R. L. Knight of Bobbing and Mr. Wachter, the former, however, securing the first prize, while Mr. Wachter obtained the silver medal

for the best H.P. in the Show out of his box. Mr. Knight's flowers were Duke of Teck, Marie Finger, Duke of Edinburgh, La France, A. K. Williams, Mrs. John Laing, Ulrich Brunner, Marie Van Houtte, Eugène Fürst, a very fine flower; Mad. Gabriel Luizet, Earl of Dufferin, Maurice Bernardin, Marie Baumann, Gloire Lyonnaise, Duke of Wellington, Maréchal Niel, Xavier Olibo, a very fine flower, and Etienne Levet. Mr. Wachter had some remarkably fine blooms in his second prize lot, such as the La France which obtained the National Society's silver medal as the best H.P., and a fine bloom of Tea Souvenir de Thérèse Levet, which very nearly did the same for the Teas. Mr. F. Warde was third. In the class for twelve distinct varieties, Mr. R. L. Knight was again first with La France, Mad. Gabriel Luizet, Louis Van Houtte, Marie Rady, Duke of Edinburgh, Mrs. John Laing, Souvenir de S. A. Prince, Caroline Kuster, Camille Bernardin, A. K. Williams, Violette Bouyer, Duke of Wellington, and Xavier Olibo. Mr. F. Warde was second; the Rev. H. B. Biron third.

In the class for twelve Teas or Noisettes Mr. R. L. Knight was again first with a box of fine blooms consisting of The Bride, Souvenir d'un Ami, Maréchal Niel, Princess of Wales, Innocente Pirola, Caroline Kuster, Hon. Edith Gifford, Madame Cusin, Catherine Mermet, Marie Van Houtte, Souvenir de Gabriel Drevet, and Francisca Kruger. Mr. Wachter was second and the Rev. H. B. Biron third. In the class for six trebles Mr. Warde was first with good blooms of Le Havre, La France, Louis Van Houtte, Violette Bouyer, Marie Rady, and Marguerite de St. Amand. The Rev. H. B. Biron was second in class 5 for twelve varieties. The first prize, a cup value £2, given by the Mayor, was awarded to Mr. Packham, of Reigate, for good blooms of Thérèse Levet, Marquise de Castellane, La France, Mad. Gabriel Luizet, Dupuy Jamain, Marie Van Houtte, Souvenir de Thérèse Levet, Capitaine Christy, A. K. Williams, Catherine Mermet, and Viscountess Folkestone. Mr. Stanley was a good second, Mr. R. E. West third. In the class for nine Teas and Noisettes Messrs. Hawkins & Co. were first with Marie Van Houtte, Souvenir d'un Ami, Madame de Watteville, Rubens, Catherine Mermet, The Bride, Jules Finger, and Innocente Pirola. Captain Lambert ran a very close second, in fact a neck and neck race. Mr. H. Foster of Ashford was first in the class for nine distinct varieties with excellent blooms. In the class for six Teas Mr. Collard was first with Catherine Mermet, Marie Van Houtte, Edith Gifford, Niphotos, Souvenir de S. A. Prince, and Souvenir d'Elise. In the class for twelve Mr. Packham was first for six varieties. Teas.—Mr. Laslett was first with Anna Ollivier, Madame Berard, Souvenir de Paul Neyron, Madame Lambard. In the class for six blooms of any one Hybrid Perpetual Mr. Knight was first with good blooms of Duke of Edinburgh.

The N.R.S.'s silver medal for the best H.P. was awarded to Mr. Wachter, as I have here already said for La France, and that for the best Tea to the Rev. J. R. Buchanan for a fine bloom of Madame Willermoz. Table decorations, bouquets, &c., are always a feature at this Show, and some excellent ones were shown, the first prize being awarded to Mrs. George Mount for a very graceful arrangement, the second to Mrs. Wachter, and the third to Miss Watson.

The nurserymen's class brought, as usual, a number of fine flowers together, Messrs. Mount, F. Cant, Prince, and Paul & Son being the exhibitors. As Mr. Mount was at home he had of course an advantage, but his flowers deserved the high awards which he obtained, and being first in thirty-six and in twelve trebles. His flowers in the former case were in the back row—Charles Lefebvre, Mrs. John Laing, Général Jacqueminot, Marquise de Castellane, Gabriel Luizet, Dupuy Jamain, Duke of Edinburgh, François Michelon, Marie Baumann, Etienne Levet, Souvenir de la Malmaison, Ulrich Brunner. The middle row flowers were La France, Duke of Teck, Souvenir d'Elise, Madame Cusin, Baroness Rothschild, Duchess of Bedford, Dr. Andry, Louis Van Houtte, Violette Bouyer. The front row consisted of The Bride, Maréchal Niel, Eugène Fürst, Marie Van Houtte, Fisher Holmes, Anna Ollivier, La Rosière, Black Prince, Duke of Wellington, and Sénateur Vaisse. Messrs. Paul and Son were second, and Mr. Geo. Prince third. In twelve trebles Mr. Mount was again first. The varieties were A. K. Williams, Mad. Gabriel Luizet, Marie Baumann, Mrs. John Laing, Duke of Edinburgh, Ulrich Brunner, The Bride, Fisher Holmes, La France, Eugène Fürst, very fine; Général Jacqueminot, and Edith Gifford. Mr. Geo. Prince was second, and Messrs. Paul & Son third. In the class for twelve Teas Mr. Geo. Prince of Oxford was first with some of his fine blooms, consisting of Comtesse de Nadaillac, Souvenir de S. A. Prince, Catherine Mermet, Mons. Furtado, a very sweetly coloured but seldom seen Rose; Princess Beatrice, Hon. Edith Gifford, Madame Cusin, Maréchal Niel, Souvenir d'un Ami, Anna Olivier, and The Bride. Mr. Frank Cant was second; Mr. Geo. Mount third.

The Canterbury Rose Society may well be congratulated on having in such an uncertain year so excellent a Show.—D., Deal.

## BROCKHAM.—JULY 1ST.

IN the early morning of July 1st, as I was making my way in the pouring rain to Burford Lodge under Box Hill, where, at the invitation of Sir Trevor and Lady Lawrence, the Brockham Rose Show was held this year, I saw a solitary goose making the most of his opportunities and enjoying the goods the gods had provided for him, and feasting on the luscious grass. It seemed to me that I was a greater goose than he to be thinking of judging Roses on such a day. How could any Roses be staged and shown in such a downpour of rain? On reaching the place of exhibition, and proceeding to business along with my fellow Judges, Mr. George Paul and Mr. Herbert Bensted (Hon. Sec. of the Maidstone Rose Association), it was surprising indeed to find not only a tent well



filled with Roses, but also that the Roses were of great merit, and that there was scarcely a bad Rose in the Exhibition. Such, however, was the case.

The Reigate Show had been put off for a week. It is always an unsatisfactory thing to put off a Show. Someone is sure to say that it is because the "Secretary's Roses are not ready," just as the farmer said that the parson after getting up his own hay was sure to "clap on" the prayer for rain. In spite, then, of the late season, the Committee of the Brockham Rose Show are to be congratulated on keeping to the date originally fixed. It was to have been held at High Ashurst, but it had to be held elsewhere this year, and Sir Trevor and Lady Lawrence most kindly offered their beautiful grounds for the purpose, and laid themselves out to make everything as comfortable as possible to everyone concerned. The band of the Royal Artillery had been secured, and played beautifully in the garden, while the Show was held in the adjoining field.

Burford Lodge has many features of interest, besides being the home of one of the most enthusiastic horticulturists of the day, the President of the Royal Horticultural Society, who certainly owns one of the largest collections of Orchids in the country. In one conservatory alone there were lying on the stage 800 plants of *Odontoglossum Alexandræ*, which Sir Trevor had lately purchased, as one-eighth of a consignment sent over at a very reasonable rate.

Between Burford Bridge and Leatherhead, about three miles, in very dry weather the river Mole entirely disappears. In the grounds of Burford Lodge there are deep hollows called "hold waters," into which the water rises 20 feet at times, showing an underground connection with the bed of the river and the cavernous nature of the strata beneath.

This will explain Spenser's lines in the "Faery Queene :"—

"The Mole, that like a 'nousing mole,' doth make  
His way still underground till Thames he overtake."

The grounds are completely shut in from the east winds by the ridge of Box Hill, which towers above the Mickleham Valley, and adds very greatly to the beauty of the scenery, which in this neighbourhood can hardly be surpassed. The house was built in 1776, and is covered with creepers; a plant of *Ampelopsis Veitchii* on one side being a "sight to see." The gardens, under the charge of Mr. Bain, were in beautiful order, and filled with all manner of rare herbaceous and other plants. Under the protection of one greenhouse was a long row of *Lilium Moorei*, under another a similar row of *Crinum*s. Here are beds of Iceland Poppies, "Thunberg" Lilies, white Martagon Lilies, *Aquilegia*s, *Delphinium nudicaule*, *Syringa*, *Philadelphus Lemoinei*, *Inula glandulosa*, blue *Delphiniums*, Pansies, *Campanulas*, specially *alba grandiflora* (Backhouse's variety), *Eryngium amethystinum*, annuals of all sorts, *Tropæolum polyphyllum* in beds of *Narcissi*, *Veronica prostrata*, *Heuchera sanguinea*, *Dahlias*, *Spiræas*, and *Pæonies*, and a scarce hardy plant of *Cerinthe major*, grey foliage, flowers purple and cream.

Accompanied by Sir Trevor himself the Committee visited the conservatories filled with *Cypripedium*s, *Oneidiums*, *Odontoglossum*s, *Dendrobium*s, *Anthurium*s (scarlet, purple, and white), *Lælias*, *Vandas*, *Bertolonias*, *Phaius*, and *Masdevallias*, *Cattleyas* and *Sobralias*. In one house we were shown the Swan Orchid (*Cycloches*) and a lovely *Bulbophyllum* in bloom, *Phaius Henryi*, and several blooming plants of a gnat-like Orchid (*Pleurothallis macroblepharis*), two fine plants of *Blandfordia aurea*, and of *Lotus peltorhynchus*, a beautiful trailing plant with grey foliage and a kind of lobster-claw bloom, *Odontoglossum luteo-purpureum*, a grand spotted hybrid. One plant of a most ordinary appearance was *Cypripedium Stonei platytænium*, a sport for which Sir Trevor had been offered a large sum. Other curiosities were an albino *Cattleya* and a *Pothos*, a wide-leaved clinging plant, side by side with a *Ficus elastica*, and a magnificent Lace Lattice plant in water, thus described in a quotation from Dr. Johnson, by Sir Trevor, as having a "reticulated structure with interstices between the interstices;" also the *Vanilla* plant, the black seeds of which form the flavouring, and a beautiful *Asparagus retrofractus arboreus*, with *Cypripedium Veitchii* and *Lælia purpurata Brysiana*, with an exquisite bloom.

There was a very large gathering of visitors to the Show, for besides the attraction of the Roses Lady Lawrence had invited a great many friends to a garden party. In the twenty-fours there were three exhibitors. The first prize (N.R.S.'s gold medal) was won by A. Tate, Esq., with a grand box containing *Duchess of Bedford*, *Marie Verdier*, *Pierre Notting*, *Violette Bouyer*, A. K. Williams, M. de Castellane, Mrs. John Laing, C. Lefebvre, Mad. H. Jamain, Dupuy Jamain, H. Schultheis, Comtesse d'Oxford, Mad. Lacharme, Ulrich Brunner, La France, Marie Baumann, Xavier Olibo, Merveille de Lyon, Mad. Gabriel Luizet, Niphetos, Abel Carrière, Innocente Pirola, La Rosière, and Etienne Levet. Mr. Cuthell took second prize for a box not much inferior. Lady Lawrence's box was highly commended.

For twelve Teas Mr. Tate again took first prize (N.R.S. silver medal) with *Innocente Pirola*, Jean Ducher, *Souvenir d'un Ami*, *Souvenir d'Elise Vardon*, Comtesse de Nadaillac, Hon. Edith Gifford, Madame Lambard, Marie Van Houtte, Hippolyte Jamain, Mons. Furtado, Princess of Wales, Madame Willermoz. Mr. Cheales followed, taking second prize (N.R.S. bronze medal) for a very good box, in which *Maréchal Niel*, Princess of Wales, *Marquise de Santina*, and *Souvenir d'Elise Vardon* were conspicuous. Mr. Cuthell was highly commended. For six triplets the first prize again went to Mr. Tate, who won with A. K. Williams, La France, *Marquise de Castellane*, Madame Gabriel Luizet, Charles Lefebvre, and Madame Lacharme. Mr. Cheales took the second prize.

In the twelves class there was a splendid fight amongst the six competitors. Mrs. Perkins won the first prize (N.R.S. gold medal) with *Louis Van Houtte*, Madame G. Luizet, Marie Van Houtte, Etienne Levet, La France, Catherine Mermet, A. K. Williams, Lady Mary Fitzwilliam, Hon. Edith Gifford, Charles Lefebvre, *Souvenir de S. A. Prince*, and Madame I. Pereire. Mr. Horne took second prize, and the Hon. Dudley Ryder third prize. For nine Teas Mrs. Perkins won first prize (N.R.S. silver medal) with *Souvenir d'un Ami*, C. Mermet, Innocente Pirola, *Devoniensis*, Rubens, Hon. E. Gifford, Marie Van Houtte, The Bride, and Madame de Watteville. Mr. F. T. Wollaston took second prize for an almost equally good box, and Miss Barclay won the third prize. Mr. Wollaston also won first prize for four triplets with *Hippolyte Jamain*, La France, Mrs. Baker, and Madame Gabriel Luizet; Mrs. Perkins and Mr. E. Horne taking the second and third prizes respectively. In the class for six of any kind, Mrs. Hatch took the first, and Mrs. Poland and Miss Dorothy Nesfield equal second. For four Teas Mrs. Poland won the prize with Marie Van Houtte, Francisca Kruger, Innocente Pirola, and *Souvenir d'Elise*. For six of the same kind Mr. Cuthell took first prize for Marie Van Houtte; Mr. W. Thompson second for *Souvenir d'un Ami*; and Mr. Cheales third for *Maréchal Niel*. For six of same kind, not Teas, Mr. Tate won first prize with Madame G. Luizet; Mr. Cuthell second, Charles Lefebvre; and Mr. Horne third with the same variety.

There were three exhibitors of garden Roses, Mr. Cuthell showing a very beautiful collection, which won him the first prize. Amongst them were *Rosa Mundi*, *Bardon Job*, *Œillet Flamand*, *Pissardi*, *Alpina*, *Polyantha*, *Mignonette*, *Damask*, *Setina*, *Golden Fairy*, and *Cristata*. Miss Barclay's was a good collection, but the flowers were very much crowded. It took second prize. For a smaller collection of garden Roses Mr. Cheales took the prize, as he did last year. The Hon. D. Ryder took the prize, which was a rare book called "*Ros Rosarum ex Horto Poetarum*" for the best Rose in the Show with a grand bloom of *Comtesse de Nadaillac*.

The table decorations were all tasteful. The three exhibited as dinner table decorations were each very effective and well arranged. Miss Dorothy Nesfield, who evidently has great talent, won first prize for five glass and iron baskets, containing Iceland Poppies of the three colours, *Sidalcea candida*, Maidenhair Ferns, and Grasses. It was an unusually attractive decoration. For the second prize Mrs. B. Meeke arranged very naturally and cleverly on a large silver dish and six silver bowls *White Pæonies*, *Roses*, *Coleus leaves*, *Begonias*, Ferns. A third very pretty decoration by Mrs. Tate was highly commended. It was a tall basket, and six glasses of *Roses* with *Sweet Briar* arranged all round on the white cloth. Girls under eighteen had a competition to themselves of a basket of *Roses* and Ferns. There were seven exhibitors, and Miss Blake won first prize, and Miss Tate second. The buttonhole bouquets were better done than usual. Miss Dorothy Nesfield easily carried off the first prize, while the second went to Miss de Cetto.

Messrs. George Paul & Son, Cheshunt, showed a box of new Roses, amongst which were J. B. Varonne (T.), *Progress*, *L'Idéal*, *Marchonell*, *Kaiserin Frederich*, *Clothilde Soupert*, *Dulcie Bell* (T.), Ernest Metz (T.), *Madelaine d'Aoust*, Madame Carnot, Janet's Pride (a *Sweetbriar* striped), Comtesse B. de Blacas, *Souvenir de S. A. Prince* (T.), Mrs. James Wilson (T.), Viscountess Folkestone, Madame Renaby, Bruce Findlay, Mrs. Paul, and John D. Pawle. Mr. Appleby of the Box Hill Nurseries, who supplied all the decorative plants in the tent, also showed five *Roses* and three seedling blooms of a Rose similar to *Général Jacqueminot*.

The Committee, as usual, issued an attractive and useful schedule, containing the principal prizetakers of the last eleven years, from which it appears that the Hon. Sec., the Rev. A. Cheales, won first prize for the twenty-fours no less than eight times. He talks of now retiring on his well earned laurels. No, Mr. Cheales, you cannot be spared; there is plenty of pluck left in you yet, and with victories yet to win. Mr. Tate has proved himself, according to last year's prophecy, a foeman "worthy of your steel." Fear him not, though he spent £100 in loam! We shall see you to the front again without doubt.

There are in the schedule two "dim dreams of the distant future" on "blue" *Roses*, taken from the *Journal of Horticulture* of 1882; two notices on Rose seeds, by T. Laxton and W. R. Raillem; a few notes by the latter grower on "some new *Roses*;" and an account of last year's Show, affording fond memories of the past.

The Brockham Rose Association is full of life and vigour. Decay is not in it. Its shows improve merit year by year, the hospitality of its members never tires, new blood is continually flowing through its veins, and the ambition of its exhibitors is kindled by medals. No less than nine N.R.S. medals were given as prizes, but its schedule of prizes needs an interpreter. Let the Committee but "clear the horizon" and rid its "classes" and "divisions" of their "fog," and the critics will go out of office.—A. B. ALEXANDER, *Shedfield Vicarage*.

CROYDON.—JULY 1ST.

THE twenty-fourth annual Show of Roses, plants, fruit, and vegetables was held in the grounds of Brickwood House, Addiscombe Road, J. W. Prince, Esq., having again placed them at the disposal of the Committee. The heavy downpour of rain in the morning prevented many exhibitors showing, but on the whole the Show was a good one, and when the weather cleared up after midday the tent, and especially the one devoted to *Roses* and other cut flowers, were thronged with visitors. The *Roses* were remarkably fresh, and many fine blooms were staged. For forty-eight distinct, Messrs. Paul & Son, Cheshunt, were awarded the National Rose Society's gold medal in addition to the first



prize; Messrs. B. Cant and D. Prior & Son second and third. For twenty-four distinct, three trusses of each, Messrs. Paul & Son were again to the fore, Messrs. J. Cheal & Son securing first for twenty-four distinct, one of each. Mr. G. W. Piper, Uckfield, was first for eighteen, as well as twelve Tea or Noisette distinct, and for twelve Roses of one variety, Mr. B. Cant won with a fine box of Madame Gabriel Luizet, followed by Messrs. D. Prior & Son, who had a good stand of Fisher Holmes.

In the amateurs' classes the Roses from Bath were conspicuous. Mr. J. Bradbury, gardener to Dr. Budd, Larkhall, Bath, secured the 25-guinea challenge cup for thirty-six blooms, distinct. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Reigate, was second, and A. H. Gray, Esq., Beaulieu, Bath, third. Mr. Bradbury was also first for twelve distinct, six distinct, three trusses of each, twelve of one variety, and for twelve Teas or Noisettes, and he was also awarded the National Rose Society's silver medal for the best bloom in the open amateurs' class, it being a fine bloom of Horace Vernet. E. M. Bethune, Esq., Denne Park, Horsham, was first with twenty-four. Mr. C. J. Salter and R. E. West, Esq., Reigate, second and third respectively. E. M. Bethune, Esq., was the only exhibitor in the class for eighteen Tea or Noisette. For six Tea or Noisette of one variety, A. H. Gray, Esq., was first; he also was awarded the large silver Flora medal of the Royal Horticultural for the best Tea or Noisette in the amateurs' classes (open).

In the local classes some good blooms were shown, but had the Show been a week later no doubt the competition would have been greater. A challenge cup and the N.R.S. silver medal were offered for six Roses, distinct, and for the second year in succession C. J. Grahame, Esq., Coombe Lane, Croydon, having been the winner, the cup now becomes his property. Councillor W. Dart, Heathfield Road, Croydon, was a good second, and the Rev. W. Wilks Shirley (a former winner of the cup), third. For twelve, distinct, Mr. Grahame, Rev. W. Wilks, and Councillor Dart took the honours. Rev. W. Wilks was first for six Hybrid Perpetuals, distinct, and Councillor Dart for six of one variety; Mr. C. J. Grahame first for six Tea or Noisette, three varieties, and the Judges awarded him the large Flora silver medal of the Royal Horticultural Society for the best Tea or Noisette in the local classes, which was Madame Cusin, and Councillor Dart secured the N.R.S. silver medal for Merveille de Lyon, as the best Rose bloom exhibited in the local classes.

Table decoration is generally a feature of this Show. Mrs. Bishop, Duppas Hill; Miss Cooper, Sydenham Road; and Mr. Thomas Butcher, George Street, Croydon, all had very tasteful arrangements, and were awarded the prizes in the order named. Mr. C. J. Salter was first for twenty-four varieties of cut flowers, which included some magnificent spikes of Odontoglossums and Cattleyas. Bouquets and hardy herbaceous flowers were well represented. The principal prizetakers for Grapes were—Mr. Clinging, gardener to W. Greenwell, Esq., Marden Park; Mr. C. Blurton, gardener to H. Cosmo-Bonsor, Esq., M.P., Kingswood Warren, and Mr. Playford, gardener to J. W. Prince, Esq., Brickwood house, for six dishes of fruit. Mr. Clinging and Mr. C. J. Salter had the best Melon.

A marquee 180 feet long was devoted to plants. There was a falling off in the number of entries for large specimen plants, but this was nearly compensated for in the quality of those shown, and the nurserymen's groups. Messrs. J. Laing & Sons, Forest Hill, occupied a space at the entrance with a choice group. Mr. J. Box had a group at the other end. Messrs. J. Peed & Sons, Roupell Park Nurseries, had an effective group of foliage and flowering plants. Mr. C. Chaff, nurseryman, Croydon; Mr. T. Butcher; and Messrs. J. Cheal & Sons, Crawley, were also exhibitors. The grand specimen plants of Philip Crowley, Esq., Waddon House (Mr. W. King, gardener), are so well known around Croydon that no one was surprised to see him carry off so many of the chief awards; it would be interesting to see how Mr. James Cypher or other large plant growers would fare with him as a competitor. His nine foliage plants were equally good. Mr. Hazell, gardener to R. W. Mitchell, Esq., Bickley, was second; and Mr. Simmonds, gardener to C. H. Mayhew, Esq., Northurst, South Norwood, was second in another class. Mr. H. Elsley, gardener to Capt. Wright, was a successful exhibitor with Fuchsias and other plants. For nine Ferns in 6-inch pots Mr. G. Kirk was first, also for a like number of Tuberos Begonias; Mr. T. A. Glover, gardener to E. Ellis, Esq., Manor House, Wallington, was a close second.

#### LEE, BLACKHEATH, AND LEWISHAM.—JULY 1ST.

A HIGHLY satisfactory Exhibition was held by the Lee, Blackheath, and Lewisham Horticultural Society, on July 1st, in the grounds attached to The Cedars, at Lee, the residence of Mrs. Penn.

The silver medal and the challenge cup for the winner of the largest amount of prize money was gained by Mr. Nunn, gardener to J. Soames, Esq., Maze Hill, Greenwich. This was keenly contested for this season, and was won only by 5s., the two following exhibitors being only 5s. and 17s. respectively behind—Mr. Mullins and Mr. Jeffery. The silver medal offered for cultural skill was won by Mr. Fox, gardener to Mrs. Penn, The Cedars, Lee, for an admirable collection of vegetables and salad. The rain on the first day prevented many people attending, but in the afternoon and evening of the second day the grounds were crowded to such an extent that it was found necessary to keep the tents open for half an hour longer than usual, it being impossible to get the vans up to them. Next year being the twenty-fifth year of the Society's existence efforts will be made to obtain as many special prize givers as possible, and if any friends of the Society are disposed to add to these

attractions the courteous Secretary, Mr. C. Helmer, 5, Boone's Road, Lee, will be glad to have particulars by October next.

At the Show in question, of which we regret we cannot give a detailed notice owing to the great demands upon our space this week, four large tents were filled with plants, cut flowers, and vegetables, and the quality throughout was far superior to that at local shows generally; indeed the bee exhibition would in all points compare very favourably with any held in the metropolitan district. Besides the exhibitors named the following were successful in many of the classes:—Messrs. Fox, Jeffery, Trollope, Payne, J. Cooke, Rhoden, W. Burgess, Pearce, C. Santle, T. Robinson, H. Startup, Reece, Dobson, Lambert, Aley, Helmer, Hood, Stockwell, Newnham, G. & W. H. Burch, R. L. Knight, Bryan, Goodard, and Neighbour.

Groups not for competition were shown by Messrs. J. Laing & Sons, Messrs. Peed & Sons, Roupell Park; Mr. W. Garton of Blackheath (cut flowers). Mr. Fisher of Lewisham (Orchids), Messrs. B. Maller & Sons, Lee and Lewisham, table decorations and floral devices.

#### PORTSMOUTH.—JULY 1ST.

AN exceedingly good Exhibition was held in the Victoria Park in this flourishing town on the date named, and considering that the surplus funds are distributed amongst local charities the Society well deserves the support of the public. The Committee deserve credit for their labour, and especial praise is due to the Hon. Secretary Mr. B. Miller, for the commendable way in which all the details were carried out. The Duke and Duchess of Connaught spent some time in the marquee; and the Duchess declared the Exhibition open to the public.

Plants were exhibited in large numbers, ample prizes being offered. The principal class was for twelve stove or greenhouse specimens, distinct varieties, not less than six to be in bloom. The value of the first prize was £12 10s., with others in proportion; there were five entries. Mr. J. Cypher, Cheltenham, was first by the superiority of his flowering plants, which were Allamanda nobilis, Ixora salicifolia, with thirty trusses; I. regina, Draecophyllum gracile, Erica expolita obbata, E. tricolor Wilsoni, Croton Countess, well coloured; and Kentia Belmoreana, in good health, were the most noteworthy. Mr. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, was a good second; Boronia elatior and Ixora Williamsi were his best flowering plants, with a wonderful Croton Warreni in the foliage department. Mr. J. Currey, gardener to Colonel Pepper, Milford Hall, Salisbury, third. The class for four specimens produced seven entries, making a fine display. Mr. Cypher here again took leading honours, Draco-phyllum gracile and Croton Thompsoni being his best plants. Mr. F. Mould, Pewsey, Wilts, was second, staging an excellent specimen of Franciscea calycina major. Mr. Offer third. The best single specimen foliage plant was Croton interruptus from Mr. Offer. It was fully 7 feet in diameter and richly coloured. Second and third honours rested with Mr. Currey and Mr. Cypher. Mr. Mould was first for one flowering plant with a capitally flowered specimen of Erica retorta major. Mr. Cypher second, and Mr. Penford, gardener to Sir F. Fitzwygram, Bart., Leigh Park, Havant, third. The class for three Palms was well filled, Mr. Offer taking first with Latania borbonica, Phoenix reclinata, and P. tenuis. Mr. Currey second. Mr. Offer was also first for one Palm, staging Kentia Canterburyana in admirable condition. Messrs. W. & J. F. Legg, Gosport, second. Mr. Offer took the leading position also for three Ferns and for one Fern with good specimens in both classes. Mr. Peel, gardener to Miss Todd, Shirley, and Messrs. Legg were second and third in the order named. Mr. E. Wills had the best table plants in a strong competition, with highly coloured, light, and graceful examples. Gloxinias were shown in first-rate condition by Mr. Hatch, Garden Superintendent Victoria Park, Portsmouth; as also were Cockseombs, Pelargoniums, and Begonias by the same exhibitor. Mr. J. Burridge, North End, Portsea, had the best Fuchsias. Colcus made a bright display, the best coming from Mr. S. Dee, gardener to Mrs. Mills, Crescent Villa, Portsea.

Groups arranged for effect were numerous and good, the competition being keen. In the open class, space 10 feet by 6 feet, there were five competitors. Mr. E. Wills secured the coveted award with a freely arranged group of plants suitable for the purpose, not being in any way crowded; the base was of Maidenhair Fern, from which rose several arching stems of Francoa ramosa, Gladiolus Colvilli The Bride, Hydrangeas, &c., the whole being neatly fringed with Panicum and Gloxinias. Second, Mr. Currey. Third, Mr. Peel. A similar class was provided for those residing in Portsea Island only, which produced a good display. Mr. J. Burridge was eventually placed first, and Mr. Hatch a remarkably close second, the front of his group failing him in the contest.

Cut flowers, as usual, made a fine display. Mr. Penford, with Orchids, Anthuriums, Ericas, &c., won first honours for twelve bunches in distinct varieties. Mr. W. Peel second. For the same number of hardy varieties there was a strong competition. Mr. Ladhams, florist, Shirley, secured the first prize with a box containing very fine Delphiniums, Campanulas, and Lychnis Haageana. Mr. J. Tavener, gardener to Sir A. K. Macdonald, Bart., Woolmer, Liphook, second. Some boxes were placed out of competition for exceeding the stipulated number of varieties. Ball and bridal bouquets were staged by Messrs. Perkins and Sons, Coventry, in their usual style—a long way ahead of any others.

Fruit, although not in such quantities as in some years, was of good quality. For six dishes, Pines excluded, Mr. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, was first, having well-finished examples of Black Hamburg Grapes, Royal George Peaches, seedling Melons, Brown Turkey Figs, and very fine Sir J. Paxton



Strawberries. Mr. Penford second; Black Hamburgh Grapes and Lucas Strawberries were his best dishes. Mr. Tavener had superior Black Hamburgh Grapes in the class for three bunches any Black; Messrs. Inglefield and Penford followed, both having the same kind. The last named was first in the class for any white variety with very fine Golden Hamburgh. Mr. Inglefield second with Muscat of Alexandria, unripe. Mr. Penford had the best Melons (scarlet and green flesh) with Syon House and Victory of Bath. Mr. Inglefield showed good Dymond Peaches in the class for one dish. Strawberries were excellent, Mr. T. Hall, gardener to S. Montague, Esq., M.P., South Stoneham House, Southampton, having Sir J. Paxton as the best; while Waterloo won for Mr. T. Wilkins, gardener to Lady Theodora Guest, Inwood House, Henstridge, second prize. Mr. Penford had the best Nectarines, Lord Napier. Mr. Hall, with Knight's Early Black, won first for Cherries.

Vegetables were only fairly good. For nine sorts Mr. Wilkins was a good first, having Suttons' Seedling Potato, Perfection Tomato, Leviathan Broad Bean, Magnum Bonum Cauliflower, and Early Milan Turnips as his best dishes. Mr. Inglefield was a close second. The best Tomatoes were staged by Mr. Penford, a splendid dish of Perfection. Mr. B. Woodward, Liphook, had the best Cucumbers in a strong competition.

Large displays of hardy cut flowers were made by Mr. B. Ladhams, Shirley, and Mr. M. Prichard, Christchurch; Messrs. Keynes, Williams, and Co., Salisbury, and Messrs. Ewing, Havant, contributing excellent stands of Roses.

#### BRIGHTON.—JULY 1ST AND 2ND.

ALTHOUGH the Roses, which usually constitute an important feature at this Show, were not so abundant as might have been desired, they were more numerous than was expected, and the quality was also better than the season rendered likely. To compensate for any deficiency in the Roses there were tasteful groups of flowering and fine-foliage plants, together with some admirable specimens in the stove and greenhouse classes. The Show was as usual under the management of Mr. E. Carpenter, and was held in the principal room of the Royal Pavilion.

With Roses Mr. C. Turner, Slough, was the most successful, as he secured premier prizes in several classes. His leading forty-eight comprised some capital blooms, the varieties being as follows:—Fisher Holmes, Pride of Waltham, Earl of Pembroke, Mrs. John Laing, Xavier Olibo, François Michelon, Hon. Edith Gifford, Devienne Lamy, Marie Van Houtte, Ulrich Brunner, Madame Lacharme, Marguerite Brassac, Niphetos, Camille Bernardin, Innocente Pirola, Marie Baumann, Alba Rosea, Duke of Edinburgh, Madame Gabriel Luizet, A. K. Williams, Souvenir d'Elise Vardon, Prince Camille de Rohan, Madame Margottin, Prince Arthur, La France, Marquise de Castellane, Captain Christy, Dr. Andry, Jean Ducher, Marie Rady, Souvenir de S. A. Prince, Duke of Wellington, Caroline Kuster, Victor Hugo, Souvenir de la Malmaison, Countess of Rosebery, Comtesse d'Oxford, Alfred Colomb, Comtesse Panisse, Grace Darling, Lady Mary Fitzwilliam, John Hopper, Star of Waltham, Charles Darwin, Perle des Jardins, Marguerite de St. Amand, Heinrich Schultheis, and Comtesse de Nadaillac. Mr. F. Woollard, Cooksbridge, was second, and Messrs. G. W. Piper, Uckfield, third.

For twenty-four triplets Mr. C. Turner was again first, showing Senateur Vaisse, Pride of Waltham, Capt. Christy, Marie Baumann, Duke of Wellington, Marquise de Castellane, Heinrich Schultheis, Madame Margottin, La France, A. K. Williams, Madame Gabriel Luizet, Jean Ducher, Charles Lefebvre, Grace Darling, Comtesse d'Oxford, and Princess of Wales. Mr. G. W. Piper was second, and Mr. Booth, Uckfield, third. The best twelve Tea (triplets) came from Mr. D. Booth, and comprised Homère, Maréchal Niel, President, Souvenir d'Elise Vardon, Madame Falcot, Triomphe de Rennes, Marie Van Houtte, Hon. Edith Gifford, Niphetos, Catherine Mermet, Duc de Magenta, and one that was unnamed. For twelve blooms of any Rose Mr. C. Turner was first with Mrs. John Laing, very bright and fine specimens, and Messrs. Piper second with Ulrich Brunner.

In the class for eight stove and greenhouse plants Mr. Portnell, gardener to Sir A. Lamb, was adjudged the first prize for excellent plants of *Statice profusa*, about 4 feet in diameter and covered with flowers. *Ixora Prince of Orange*, *Stephanotis floribunda*, *Bougainvillea glabra*, *Dipladenia amabilis*, a fine globular plant bearing large flowers; *Anthurium Schertzerianum*, *Allamanda Schottii*, and *Erica tricolor Wilsoni*. Mr. Mould of Pewsey was second, his best plants being *Erica aristata*, 4 feet across; *E. ventricosa Bothwelliana*, and *Statice profusa*. Mr. Portnell was also first with twelve table plants, neat and useful specimens for decorative purposes.

Groups arranged for effect were capital, and Mr. H. James, Norwood, was first with one of the best groups he has shown. Mr. Currey, gardener to Col. Pepper, Salisbury, was a close second, and Mr. E. Mcachen, Withdeane, was third. Mr. Currey was also first for an excellent group of Ferns. Non-competing groups of plants were staged by Messrs. J. Peed & Sons, Roupell Park and Streatham Nurseries, who are frequent and welcome exhibitors of choice and useful plants at shows around the metropolis and in the southern counties. Messrs. J. Cutbush & Sons, Highgate, had a fine collection of greenhouse flowering and foliage plants, and Mr. G. Miles, Dyke Road, Brighton, had a large group of miscellaneous plants. Floral decorations were not of a remarkable character, much the best coming from Mrs. F. T. Gadd, 20, Steyne.

#### CHISWICK.—JULY 2ND.

THE eleventh annual Exhibition of the Chiswick Horticultural Society took place in the Royal Horticultural Society's Gardens, Chiswick, on Thursday last, and was in many respects very successful. Much interest centred in the new class provided in this year's schedule

for a group of Gloxinias arranged with Palms and Ferns in a semi-circular space on grass not exceeding 100 square feet. The successful competitors were Mr. A. Newton, gardener to J. B. Hilditch, Esq., Asgill House, Richmond; Mr. Thomas Bones, gardener to J. Donaldson, Esq., Tower House, Chiswick; Mr. A. Wright, gardener to E. H. Watts, Esq., Devonhurst, Chiswick; and Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick, who gained the prizes in the order named. The handsome silver challenge cup (value 25 guineas) for seventy-two cut Roses was won with grand blooms by Mr. B. R. Cant, St. John's Street Nursery, Colchester; second, Mr. Charles Turner, Slough; third, Messrs. Paul & Son, Cheshunt; highly commended, Mr. Frank Cant, Colchester.

Vegetables were well shown by Mr. C. J. Waite, Glenhurst Gardens, Esher; Mr. D. White, gardener to Mrs. F. Watson, Redlees, Isleworth; Mr. W. Palmer, Surrey; Mr. E. Chadwick, gardener to E. W. Nelson, Esq., Hanger Hill House, Ealing, and others. Mr. J. Palmer staged faultless fruits of the New Melon Sutton's Triumph not for competition, and which were highly commended.

Non-competition groups of plants and cut flowers contributing much to the attractiveness of the Show were sent by Messrs. Charles Lee and Son, Hammersmith; Messrs. W. Cutbush & Son, Highgate; Mr. Reynolds, gardener to the Messrs. De Rothschild, Gunnersbury Park, Acton, and Mr. M. T. May, gardener to the Marquis of Bute, Chiswick House, whilst special mention must be made of the quaint group of Cacti from Messrs. James Carter & Co., which deservedly attracted much attention.

#### NORWICH.—JULY 2ND.

THE early morning train on July 2nd carried us off to commence once more the round of Rose showing at Norwich. There were already some amateur and professional Rose growers in the train, and at the stations where we expected them familiar faces, peering over their piles of green boxes, were loudly welcomed. Bursting Station was passed in silence, amid expressions of heartfelt regret that the late Rev. H. T. Frere, the pioneer of Rose showing in East Anglia, was lost to our little band.

The Show was held in Catton Park, the seat of S. Gurney Buxton, Esq. (to whom exhibitors and Judges are much indebted for a welcome luncheon), some three miles from the city; but Mr. Pollard, the able Hon. Sec. of the Norfolk and Norwich Horticultural Society, was not oppressed with fear as to the result of holding a show so far off in unsettled weather, for the Society is one of the strongest in England financially, and in the support accorded to it in the rapidly increasing and many church-ed City. The East Anglian Horticultural Club, a useful and flourishing Society, has its headquarters here, and therefore is, I am sorry to say, able to embrace but a small portion of East Anglia proper; and such an institution, whose meetings must, I am sure, be full of harmony and good will with Mr. F. Morris in the chair, is just the thing which many Rose societies and horticultural exhibitions require to support them. As I walked back to the station early in the afternoon the people were pouring out in waggonettes, brakes, and private carriages to such an extent that schoolchildren lined the railings of their playgrounds three deep to see the people go by, as if it was the Derby Day! It was "a sight for sore eyes," especially for some treasurers that I wot of.

A good Rose Show could hardly be expected at such an early date in such a late season, indeed the Committee held a meeting to consider the advisability of postponing the date, but the difficulty of finding another suitable day which would not interfere with another Show proved too much for them, and the original fixture was wisely adhered to. The postponing of fixed dates might, I think, call for some expression of opinion at the next general meeting of the N.R.S.

H.P. Roses were weak, indeed it was plain that hardly anyone had come to his strength on that point, and considering that four strong professionals were represented, it was very noticeable how all the best Teas were to be found in the amateur classes. For forty-eight Roses Mr. Prince of Oxford was first, showing H.P.'s better and Teas smaller than usual. Mr. B. Cant second with Madame de Watteville as his best bloom, and Messrs. Burch of Peterborough third with A. K. Williams in good condition.

In the amateur classes the Rev. H. A. Berners of Harkstead Rectory, Ipswich, was well to the fore, his Roses being evidently considerably earlier than those of his rivals, and Rev. A. Foster-Melliar of Sproughton took a back seat throughout. In thirty-six Mr. Berners was first, having only Alfred Colomb, however, among H.P.'s as a first-class bloom. Mr. Foster-Melliar was second with barely a decent H.P. in his stand, but showing three extra fine Teas—Comtesse de Nadaillac, very fine and high coloured, but quite past its best; Edith Gifford, very solid and large, and a rare specimen of *La Boule d'Or* of unusual shape and colour. Miss Penrice of Witton was third. Four stands of twenty-four were staged, Mr. T. H. Powell of Drinkstone Park being first with a neat fresh box, and Mr. Foster-Melliar second with a good many bad ones, but one fine Jean Ducher. Of the remaining three boxes, much lacking in quality, two had a considerable struggle for the third place, but an unusual amount of eccentricity of nomenclature in her rival's stand gained Miss Penrice the award.

Four boxes of twelve Teas (amateurs) were shown, upholding well the character of East Anglia for growing and showing these lovely flowers. Mr. Berners was placed first with a collection worthy of record. Back row: Madame Bravy, Comtesse de Nadaillac, grand; Rubens, rather empty; Catherine Mermet, good. Middle row: Jean Ducher, Cleopatra, good; Souvenir d'Elise, very fine; Edith Gifford. Front



row : Souvenir de S. A. Prince, Madame de Watteville, Innocente Pirola, Princess of Wales. The Nadaillae gained the medal after a long and tough fight with Mr. Foster-Melliar's Boule d'Or from his thirty-six. Both these exceptional blooms were shown at the Crystal Palace two days later, and were still worthy of admiration. Rev. F. Page Roberts was second in this class, his blooms being smaller, but very neat and clean as usual, and Innocente Pirola very good. Mr. Foster-Melliar was third with Souvenir de S. A. Prince, Comtesse de Nadaillac, and Edith Gifford as his best.

For twelve H.P.'s of a sort (too large an order for amateurs at a local show) Rev. A. L. Fellowes was first, as usual, with a fine stand of La France, Miss Penrice following with the same variety, smaller, but in this box was found the medal H.P., a bloom in which no possible fault could be found, save a little want of size. A box of Gabriel Luizet was third. In six H.P.'s of a sort Mr. Berners was first with Gabriel Luizet, Mr. Foster-Melliar following closely with Marguerite de St. Amand. In twelve Teas of a sort Mr. Fellowes was first again, as last year, with Madame Bravy, large and clean but many imperfect in form. Mr. T. H. Powell second with Caroline Kuster, and H. Robinson third with Maréchal Niel. There was not much quality in the class for six Teas of a sort, Mr. Berners being first with Edith Gifford, Mr. Foster-Melliar second with Nadaillac, and Mr. Page Roberts third with Princess of Wales.

In eighteen trebles (open) Messrs. Burch were first, having Lady Mary Fitzwilliam large and clean, and Messrs. D. Prior & Sons of Colechester second, bright examples of La France being their best. In twelve trebles (amateurs) Mr. Berners was first, Mr. Fellowes second, and Mr. Foster-Melliar third. The local classes did not produce anything extraordinary in the way of rising talent. An extra prize was awarded to Mr. Fellowes for an interesting stand of twenty-four single and Polyanth varieties, among which Ceeile Brunner and Anna Maria Montravel were noteworthy.

There was a poor show of fruit and vegetables, especially of the latter. I was much taken, however, by Daniels Bros.' "Continuity" Lettuce, as shown by them, which will, I think, be an acquisition, if it is as good as it looks and is reported. A fine general stand of flowers, &c., was made by Mr. John Green of Derham, among which the Eckford varieties of Sweet Peas were noticeable.—W. R. RAILLEM.

#### CHERTSEY, WALTON, AND WEYBRIDGE.—JULY 2ND.

THE twenty-sixth annual Exhibition of this district Show was this year held in Ashley Park, by the kind permission of J. S. Sassoon, Esq., and was considered to be the best yet produced. It is not every Secretary who can boast of managing so many exhibitions as can Mr. J. Rawlings, who has officiated for twenty-six years. Groups of a miscellaneous character have long been a feature at this Show, but this year there was a falling off in numbers, but the quality was very high. £4 was offered as first prize for a group in a half circle, 14 feet by 7 feet. Mr. J. Reeves, gardener to Mrs. Vachell, Oatlands Park, Chertsey, was first with a tasteful arrangement, in which every flower and plant could be seen with ease, some well-grown plants of Carnation Miss Jolliffe, *Franeoa ramosa*, *Liliums auratum* and *Harrisi* were employed, these along with graceful Palms rising from a base of Maidenhair created a pleasing effect. Mr. J. W. Reed, gardener to E. Pettit, Esq., Broadwater, Oatlands Park, was a good second, the only fault in this group was its slightly crowded state on one side. For a group 10 feet by 5 feet, also arranged on the grass, there was but one competitor, Mr. A. Millican, gardener to H. Cobbett, Esq., Walton-on-Thames, who was adjudged first prize, an honour which he richly deserved.

Plants were staged in large numbers, and generally of good quality. For eight specimens, not less than four to be in bloom, Mr. J. Reeves was a good first, having a splendid plant of *Erica Cavendishi*, a good *Statico profusa*, *Cycas revoluta*, and *Phoenix reclinata*, Mr. J. W. Reed second. *Ixora salicifolia*, *Clerodendron Balfourianum*, and *Bougainvillea glabra* were his best. For the best six flowering plants Mr. J. W. Reed had *Azalea Duke of Nassau*, *Dipladenia Brearleyana*, and *Clerodendron Balfourianum* in his first prize lot. This exhibitor was also adjudged the premier honour for single specimen flowering plant *Clerodendron Balfourianum*. Mr. Cook, gardener to J. S. Sassoon, Esq., Ashley Park, Walton, was second with *Allamanda Hendersoni*. The last-named occupied first place for six fine-foliaged plants. *Kentia Fosteriana*, *Latania borbonica*, and *Cycas revoluta* were the most noticeable. Mr. Reed second. Mr. J. Reeves had the best six Ferns, *Davallia Mooreana* being particularly noticeable; he also had the prize for four hardy Ferns. *Caladiums* and *Achimenes* were also well shown by Mr. Cook. *Gloxinias* were profusely flowered, first honours falling to Mr. J. Thorne, gardener to H. A. Flood, Esq., Walton-on-Thames. Tuberous *Begonias* in six varieties made quite a feature in the Show, the plants being of high excellence, both in flower and foliage. Mr. W. Stedman, gardener to Miss Verity, Weybridge, was first prizewinner; Mr. W. C. Pagram, gardener to A. F. Hobhouse, Esq., Weybridge, also showed well.

Cut flowers were a decided feature of the Exhibition, Roses being especially noteworthy. For twenty-four sorts, single trusses, Mr. J. Sparrow, gardener to the Rev. A. Bramwell, Barrow Hill, Chertsey, was adjudged first honours with blooms of medium size, fresh, and good colour. Mr. A. Hunt, gardener to W. L. Cohen, Esq., Englefield Green, Egham, second; and Mr. Field, gardener to Captain C. F. Terry, Shrublands, Hersham, third. Ten competed in the class for twelve Roses, distinct, Mr. J. W. Reed being first with fresh even blooms. Stove and greenhouse cut blooms in twelve varieties were best shown by Mr. H. Jacques, gardener to Miss Renny, Chertsey, who also took premier

position for the best collection of hardy herbaceous varieties, staging thirty-six varieties, Mr. W. C. Pagram being second. Trusses of double and single *Pelargoniums* were well staged by Mr. Carpenter, gardener to Major Collis Brown, Byfleet. Vases for drawing-room and dinner table decoration were well represented, the former by Mr. J. Reeves and the latter by Mr. T. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey.

The best collection of six varieties of fruit was staged by Mr. Osman, and the best eight dishes of vegetables by Mr. Sparrow. For a collection not exceed ten varieties, Mr. F. Hopkins secured the first prize.

Messrs. J. Laing & Sons, Messrs. B. S. Williams, and Messrs. Peed and Sons each sent a group of choice flowering and foliage plants not for competition, which added considerably to the attractiveness of the Exhibition, and Mr. Jackman contributed excellent Roses.



#### FRUIT FORCING.

**PINES.**—*Starting Suckers.*—These will soon be fit to be taken from the plants which formed the early section of summer fruiters, and the necessary provision must be made at once for their reception, so that the plants may have the benefit of undiminished solar heat in developing growth for as long a period as possible. The means essential are a fermenting bed in a low damp house or pit, and the heat of it in a steady state of about 90° at 6 inches from the surface, but a few degrees higher, or 95°, may be allowed at the start, taking care that it is not exceeded. The suckers should be taken from the parent plants and then placed directly into 5 or 7-inch pots according to their size, and be watered once in order to settle the soil about them. Good fibrous loam torn up by hand without any admixture is the most suitable compost. It should be firmly embedded in the pot and about the sucker, which will tend to cause speedier root action, sturdier and more satisfactory growth. For a week or ten days the house or pit must be kept rather close and moist; shade effectually, and admit but little air, sprinkling from a fine syringe once or twice a week according to external influences. As soon as growth takes place more ventilation with less shade is desirable, which must be proceeded with gradually until the growth is well decided and the plants are inured to the sun, when ordinary treatment should be given. Once the plants are started they must not be allowed to become root-bound, but the growth accelerated as far as is consistent with a sturdiness; consequently there must not be any delay in shifting into the larger pots immediately the roots have taken firm hold of the soil and before they become matted together at the sides of the pots, which for Queens and Black Jamaica may be 10 inches, and for other sorts 11 or 12 inches, using fibrous loam, but more lumpy than for suckers, adding a sprinkling of steamed bone meal, and to prevent worms entering the pots a handful of soot or wood ashes may be sprinkled over the drainage.

**MELONS.**—*Second Crops.*—When old plants are in good health and free from red spider will show blossoms freely on the laterals, even when the fruit is swelling, but these will not set unless syringing is discontinued, which is not advisable, so that lateral growths should be encouraged to insure fruit showing when the present crop is advanced for ripening, and these will set freely with the drier atmosphere, and the crop be somewhat advanced by the time the fruit is cut. The plan is then to cut away such old growths as are useless, and concentrate the fresh growth on the young fruit. A little of the old soil may be removed, lumpy loam supplied, with a fourth of decayed manure free from worms. Give a good soaking of tepid water, and follow at once with equally warm liquid manure. If there is any red spider sponge the leaves with soapy water, 2 ozs. to the gallon, and remove the worst infested leaves. Maintain a good moisture, and sprinkle the beds in houses with horse droppings once or twice a week, not much at a time, but little and often. Failing these sprinkle the paths, &c., with liquid manure two or three times a week, but it is best to use the liquid at all afternoon dampings and weak. It must be kept from the foliage. The plants not having fruit set when the first crop is cut, but being healthy and vigorous, they should be treated as if they had fruit swelling, encouraging growth, and when they show fruit keep the air drier and ventilation free. They will set and swell a crop more quickly than young plants, but if they are exhausted with the first crop, and attacked by red spider, they would be best rooted out. In that case thoroughly cleanse the house or pit, and remove the old soil, supplying fresh. After giving the bed a good watering with liquid manure, when part only of the soil has been removed, fresh plants may be put out. Keep them close, moist, and shaded, and they will soon become established, and show fruit so as to afford a late supply; but such structures must have artificial heat, as Melons in late September are apt to suffer in quality should the weather prove moist and cold. They should have a dry atmosphere, and a temperature of 65° to 75° secured, and a free circulation of air.

*Routine.*—Give support to the fruits before they become heavy, letting the table slant so as not to hold wet, and place slates beneath the fruits of the plants in frames, raising them above the foliage on small



inverted flower pots as the swelling advances. Fertilise the flowers daily until sufficient fruits are set of about equal size on a plant, then remove all the flowers and reduce the fruits to three or four on a plant according to its vigour.

*Shade* only to prevent flagging, it is most needed on bright weather succeeding a dull moist period. Melons directly exposed to the sun are benefited by a slight shade when ripening, especially when the plants do not from indifferent health supply moisture to the fruit freely. Repot any plants requiring it, and keep them sturdy by placing them near the glass. Look well after canker. It often arises from damp, and the remedy is a drier atmosphere or freer ventilation, and rubbing quicklime into the affected parts.

*Stopping and Removing Growths.*—When the fruit is set and swelled to the size of an egg the laterals may be pinched to one leaf, and if this results in too much foliage, so that the leaves upon the primary shoots are crowded or shaded by them, thinning must be resorted to, removing a little at a time in preference to a quantity at once, the latter giving a check unfavourable to the fruit swelling, not unfrequently causing it to cease swelling; in that case its rind becomes hard, also in the flesh, and it sometimes cracks and exudes through gangrene. The plants should be at least once a week, and in the case of vigorous plants twice, for stopping and the removal of superfluous shoots, the principal leaves being fully exposed to light and air.

*Watering.*—Melons never ought to lack moisture at the roots. Water must be given before the foliage flags, as when that occurs a check has been given which will have its effect. Over-watering is even worse, therefore do not afford water until the soil is becoming too dry for the support of the plants, but before flagging takes place, when a thorough supply must be given. Plants swelling their fruit will need water once a week, even those with a large extent of root space; others with lessened rooting areas require it twice a week, and plants in boxes every alternate day or oftener, and those in pots will need water or liquid manure once or twice a day. When setting and ripening it will be sufficient to keep the foliage from flagging, and if watering becomes necessary it should be given without wetting the surface more than can be helped. A poor growth is not good either for setting or ripening the fruit, but a drier condition of the soil is desirable at those times than when the fruit is swelling.

*Syringing.*—When the flowers are about expanding withhold water from the foliage, and when the crop is ripening it must be kept off the leaves, and especially the fruit, which would probably crack; but the chief cause of fruit cracking is a close moist atmosphere at night. At the time of setting and ripening moisture must not be entirely withheld from the atmosphere, but damp available surfaces in the morning and afternoon. When the fruit is swelling syringe well at closing time, and if morning syringing is practised let it be done early; but it is best omitted, damping more liberally. Sprinkle plants in frames or syringe at closing time, being careful to keep the water from the collar of the plants.

*Ventilation.*—As the fruit approaches ripening admit a little air constantly, so as to prevent the deposition of moisture on the fruit; also when the flowers are setting, for when damp settles on the blossoms the pollen is converted into paste, and the delicate organs are destroyed. In frames it is always a good plan to provide a little ventilation at night, and increase it early in the morning of bright days when the temperature has advanced to 75°, and gradually increase it with the rising temperature, keeping through the day at 80° to 90°, and closing sufficiently early to rise to 95° or 100°, and before night admit a chink of air at the top of the house or back of the frame.

*Temperature.*—Melons like plenty of heat. This will now be maintained without having recourse to much artificial warmth; it will suffice if the night temperature does not fall below 65°, and is maintained at 70° to 75° by day. In a dull cold period a little fire heat may be desirable to maintain a buoyant condition of the atmosphere when the blossoms are setting and when the fruit is ripening, and at those times the plants in frames will be much benefited by linings placed against their sides, and if necessary to the beds, as it allows of a free circulation of air, and otherwise the temperature is ruled by external influences.

**STRAWBERRIES IN POTS.**—Early runners for layering in pots are best furnished by early planted runners of last year. The plants will afford the strongest and best runners for layering that are not overcropped, and well supplied with water. The plants should have shown blossoms, because runners from fruitful plants always turn out better than those from fruitless strong-growing parents. The runners may be layered in small pots, turves, or into the fruiting pots. All three plans are good. In any case it is essential that the first runners, which give the finest plantlets, should be selected, and that they be induced by free watering to emit roots speedily, so that they may by after judicious attention develop into sturdy plants and form good crowns. If layered into the largest pots they need not be detached until thoroughly established.

Those layered in 3-inch pots or turves should, as soon as well rooted, be detached and stood in a shady place for a few days preparatory to shifting them into the fruiting pots. These may be 5 inches for very early forcing, 6 inches for succession, and 7 inches for late work. For very early La Grosse Sucrée and Vicomtesse Hericart de Thury are unrivalled for setting, swelling, and finishing fine glossy fruits of good quality. Noble sets well, and finishes off a heavy crop of dull-looking fruit; Auguste Nieaise is much brighter, but the quality is not much better than Noble, but both are esteemed for appearance. Sir Harry is excellent for home use, also President, but neither travels well. Sir

Joseph Paxton is good in crop and quality, but it mildews in some places, and there are none to beat British Queen, Dr. Hogg, and Coombs for late supplies. Waterloo is valued for its deep colour and good quality. The pots must be clean inside and outside, have a large crock in each, and three or four of lesser size with some smaller still, so as to form about an inch of drainage. This should be secured with the rougher parts of the compost rammed tightly down. Turfy loam, strong rather than light, must form the staple of the compost. Break it up roughly, adding a quart of steamed bonemeal and a similar proportion of soot and wood ashes to every bushel of soil. If these are not available, the advertised fertilisers answer equally well, following in each case the instructions accompanying them. Let the compost be moderately dry when used, for if wet it will shrink after potting, leaving the sides of the pot. Bring the soil in the pot up to the required height, ram it firmly, and finish, so that the base of the crown will be about half an inch below the rim, which must be left clear for watering, allowing a little more for the larger size of pot. Stand the pots on a hard base in an open sunny situation, but sheltered from strong winds, with sufficient space between them to allow the full exposure of the foliage. Give water as required, and sprinkle the foliage a few days after potting. If this be followed each evening it greatly assists the plants. When the roots are working freely in the fresh soil copious supplies of water will be needed, and always give sufficient to moisten the soil through to the drainage. The plants must not be allowed to flag, and the soil ought not be soddened by needless waterings. Remove all weeds and runners as they appear.

### THE FLOWER GARDEN.

*Carnations.*—Early raised seedlings ought now to be large enough for planting out where they are to flower, and without much further trouble should give a grand display of blooms next summer. The latter remark applies to the ordinary border varieties, as the newer Margaret, or Marguerite, should flower freely this autumn. They succeed best on sheltered borders and in slightly raised beds, fresh loam and partially decayed horse droppings being freely added to the ordinary garden soil. Supposing the beds are formed 7 feet wide, a very convenient size, with alleys 1 foot wide between them, the former would hold six rows of plants at a distance of 1 foot asunder in the rows. Disturb the roots as little as possible in planting, and fix the plants firmly. After being watered a mulching of leaf soil might advantageously be given. Older plants now well advanced towards flowering should have their stems lightly and neatly supported with stakes, and if extra fine flowers are desired disbud freely. Seedlings flower so very abundantly that it is not often possible to obtain cuttings or layers from them, but cutting-raised plants usually make more growth. Some of the smaller shoots if taken off now, dibbled in boxes filled with sandy loamy soil, and placed in a close frame against a north wall, will strike readily. Later on a little gentle bottom heat will be needed. Layering the stronger growths may also be commenced now, fine strongly rooted plants being quickly had in this way.

*Pinks.*—Although these will remain in a fairly healthy free flowering state for several years, by far the best flowers are obtained from young plants. Fresh beds should, therefore, be made every year, and the same number of worn out plants destroyed. Now is the best time for inserting the pipings or cuttings. As a rule they strike readily in either handlights or frames located behind a north wall, but in high and dry districts a gentle bottom heat is desirable. A few well drained boxes filled with loamy gritty soil, or handlights similarly prepared, will hold sufficient cuttings for most gardens, but if extra large quantities are required place a layer of partially exhausted and not too dry heating material, a mixture of leaves and stable manure answering well, in the bottom of a garden frame, treading it down firmly, and on this place about 4 inches of fine loamy soil, finishing off with a liberal surfacing of sand. Twist off the cuttings from the old plants, lightly trim, and then dibble them in firmly 2 inches apart, a gentle watering being given at the finish. The frames or handlights containing the cuttings to be kept close and shaded from what sunshine reaches them till all are rooted, when they ought to be ventilated freely, those struck early being fit for the beds in the autumn. Pinks are also easily raised from seed, and if pods are found on any of the plants, including the popular Mrs. Sinkins, take care of them. Being duly harvested and stored the seed may be sown in gentle heat early next spring.

*Budding Roses.*—Forward stocks open freely now, and if the buds are sufficiently plump these also will part readily from the wood. This important operation may be carried out any time during July and August, and it often happens that the late inserted buds, owing to their lying dormant till the spring, give much the strongest growths. If the budding has to be done in hot and dry weather give a good soaking of water to the stocks and bud-yielding Roses, two nights in advance, or the bark will not rise freely.

### THE KITCHEN GARDEN.

**PEAS.**—It is not often that Peas are seen in better condition than they are this season, and they are scarcely a week later than they were last summer. If any fail to fill their pods as fast as desirable top them, and the same thing should be done if extra fine pods are required in this case directly the first flowers have faded. It is further advisable to freely thin out the pods, leaving only the best formed, and these, if the variety is suitable, should eventually become quite good enough to win prizes. Heavy and very welcome rains have fallen in most districts, but in but few cases are these sufficient to well moisten the ground



occupied by the roots of Peas, and advantage ought really to be taken of a showery time to give the rows a thorough good soaking of liquid manure of some kind, the drainings from mixed farmyards freely diluted with pond or soft water if at all strong answering well. Blood manure also well diluted is fine for Peas, causing the pods to grow to a great size and to fill rapidly. If liquid manure is given in hot and dry weather let it succeed a soaking of clear water, one preparing the ground for the reception of the other. A heavy mulching of strawy manure is of great assistance to rows of main crop and late Peas, and the least that can be done is to hoe up the Spinach run to seed between the rows, and to distribute this alongside the latter. Peas being in great demand in the autumn sow several rows of Ne Plus Ultra, Latest of All, or other well tried late varieties at once on deeply dug well manured ground, giving the preference to high rather than low positions, the latter being most subject to destructive early frosts. If the ground is at all dry open deep drills, and well soak with water prior to sowing the seed, covering the latter with about 3 inches of fine soil. Thinly sown Peas are the least addicted to mildew, and most late varieties will branch well if given the chance. Either stake Peas before they fall about the rows, or not do it at all.

**POTATOES.**—These again look remarkably well, never better probably. The weather being so favourable for hoeing and cleaning operations there ought to be no weeds, but if there are any left among Potatoes pull them up at once, or otherwise a plentiful supply of seed will be the result, and much extra work provided for the end of the summer. According as the early crops are lifted, clear the ground of rubbish, well level, and fine down the surface, and that will be all the preparation needed for Strawberries, salading, Broccoli, Savoys, Turnips, and other successional crops. Having the ground in proper condition for planting or sowing is always a gain during hot and dry weather. Do not save the smallest tubers for seed purposes, but rather reserve a good breadth of an approved early variety, and save all but the coarsest and smallest tubers for seed. Home-saved tubers of Ashleafs especially are always the best, therefore look well ahead and save plenty, as there are no more profitable early varieties and few (if any) to equal them.

**ENDIVE.**—Plants obtained by sowing seed in May or the early part of June are rarely of much service, being almost certain to run prematurely to seed. Not till Lettuces fail to blanch perfectly is there much demand for Endive, and the latter can be had good when wanted by sowing seed during the last week in June or a week later. The best strains of Green Curled, with the Louviers and Improved Broad-leaved Batavian, may all be sown with advantage, a fairly large piece of open ground or a portion of a border newly cleared of either Potatoes, Cauliflowers, or Onions being suitable. Get this into a finely divided state, water it if at all dry, and then sow the seed thinly and broadcast, a good breadth of ground being given up to each variety, and cover with sifted soil. When large enough the majority of the plants may be moved elsewhere and the rest left to develop and blanch where they are, a capital early crop being thus obtained without much trouble.

**TURNIPS.**—It is not always possible to keep up a good supply of Turnips, the enemies to the young plants being especially numerous. Sowing seed on lumpy ground or in a hot and dry position at this time of year is so much wasted labour, but Turnips do not often fail on north borders, or in other cool well-prepared positions. These having been dug up some time previous, would now crumble down finely. Open the drills 15 inches apart, moisten them if dry, and sow the seed thinly. If either slugs or fly are troublesome, dust over the young plants frequently with soot and lime while yet the dew is on them. For the present sowing Snowball, Veitch's Red Globe, and Chirk Castle Blackstone are all suitable, the last-named being particularly well adapted for late crops. It sometimes happens that these early July sowings prove the most serviceable of any, the bulk of the roots standing or being kept well through the winter.

**TOMATOES.**—These quickly took to their fresh quarters, the start auguring well for future success. Being now well established, the roots spreading far out into the fresh soil, a soaking rain having also fallen, there will be little need for much further assistance from the watering-pot, though those sheltered by copings of any kind will still require to be watered occasionally. Give all a mulching of short manure or leaf soil. It is now when the plants should have the closest attention in the way of training and disbudding, allowing the side shoots to grow to such a size as to need cutting away by armfuls being a very unwise practice. Lay in the strongest branches where there is good room for them, and closely pinch out all the rest, but do not as yet interfere with the strong primary leaves.

**GLOBE ARTICHOKE.**—The heads of these will soon be plentiful, and should be cut directly they are fully grown, whether required for use or not, this favouring the production of good successional supplies. They are naturally rank-growing, gross-feeding plants, soon exhausting the ground of its moisture and fertility, and unless given copious supplies of liquid manure now as well as a heavy mulching of manure in the spring, are liable to collapse in hot dry weather. The young plants, or divisions, and any seedlings put out, ought particularly to be looked after, as they should give useful supplies of heads in the autumn.

#### PLANT HOUSES.

**Watering.**—Experience tends to prove that greater care is exercised in watering during the winter than in the summer months. Not unfrequently during hot bright weather plants receive too much water, and evil consequences follow. Too much care cannot be exercised in the

watering of plants, especially after they have been newly potted and the pots are full of roots. It is then difficult, if the drainage is good, to overwater them. Many seedlings and other plants are ruined in their early stages by the soil being kept too wet. The secret in plant growing is to supply water carefully.

**Feeding with Liquid Manure.**—Each year convinces us that more harm than good results from the use of liquids from cesspool and the farmyard. It is difficult to estimate its strength, and young men, in the hope of pushing on plants rapidly, use it too strong, and burn the roots or poison the surface of the soil so that the roots will not enter it. Soot water in a clear state is practically harmless, and quickly stimulates the plants, and may with safety be used every time water is needed once the plants are rooting freely in the soil. This, with a suitable artificial manure applied to the surface of the soil at intervals of two or three weeks, will be found far better than daily supplies of farmyard liquid.

**Plant Cleaning.**—Constant attention is needed in dipping or syringing plants directly aphides and thrips are observed upon them. Where plants can be fumigated it will be the most economical method of destroying these pests. Plants must be freed from mealy bug and scale on every opportunity when the houses are not hot. It is impossible to have healthy robust plants that are infested with insects. When the houses are cool men can clean nearly double the number of plants that they can when the atmosphere is moist and the temperature high.

**Pot Washing.**—Pots can never be washed so quickly and easily as directly they are emptied. We find it economical to wash them at once. If stored outside and allowed to dry they take more than twice the time that they do when they are moist. If the whole cannot be done as the plants are turned out, a large tub or tank should be handy for placing them in to keep them moist, so that it can be done at the first opportunity. Pots in which plants are growing should be kept clean, for however well plants are grown their appearance is practically destroyed if the pots are allowed to remain dirty. The walls, eurbs, glass, and other portions of the structure should be cleaned thoroughly when the plants are turned over. A few hours devoted to these operations now and again assist materially in maintaining a healthy atmosphere about the plants. The appearance of houses and plants depends almost solely whether they are kept clean or the reverse.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### THE WEATHER.

THE weather continues unfavourable for honey. In another three weeks the Clover will be past, and the lateness of the season does not augur well for the Heather. We have had a week of unsettled weather after the great drought, and there is little indication of a favourable permanent change. Flowers are profuse, and a week or ten days of bright weather would give abundance of honey. It is the 3rd of July, and everything is late, but the copious showers are very beneficial to crops of every sort.

#### QUEEN EXCLUDER ZINC.

I am sorry to have to reply to the statements of Mr. J. M. Hooker, pages 521-22. Mr. Hooker cannot be ignorant of "the previous teachings of this Journal." I have never made a prior claim to any invention or improvement connected with apiculture to which I was not entitled, but I have often had to correct what appeared in contemporaries when they laid claim to contrivances in common use before the claimants kept bees. I did not assume the wire excluders were the same as perforated zinc, but simply showed that the idea was not new. I deny that bees will fill the centre comb of the brood with honey that the queen has not access to so long as a cell is empty elsewhere.

Mr. Hooker is in error when he says the Judges were all Scotch at Edinburgh. The principal Judge was Mr. Symington, the peasemeal man. As for excluder zinc being an improvement on supering, the idea is to me amusing. The Stewarton system has not been improved upon. I observe Mr. Hooker refers to his medal for sections. But I must go farther. At the first Caledonian Apian Society's Show there were five Judges, One, the late Mr. James Anderson, was so displeased with the opinions of the others that he left, Mr. Mark Walker also dissenting, leaving Messrs. Hooker, Abbott, and McLauchlan to decide, with the result that with one exception they awarded the first prize in every class to pure sugar. I entered a protest against the exhibitors, and in every instance an apology was made.

The hives came next. Mr. Abbott on this occasion was assisted by Mr. Hooker, and this is the point I wish to bring out. My hive was a storifying one of the ordinary frame type. The storifying



might, if desired, be dispensed with, or used for supers, and as there were four dividing boards, close fitting, could be transformed into many shapes, and instead of frames supers could be substituted. At the sides there were entrances, so that a nucleus or two nuclei could be formed without interfering with the body of the hive. Mr. Abbott was first in this class.

The next class was for the cheapest storifying hives, competed for by Mr. A. Ferguson, Stewarton, with one of the Lanarkshire storifying hives at 12s. 6d. The first prize was awarded to an English one at 34s. or 34s. 6d. Both instances were decided by English Judges, Messrs. Hooker and Abbott. The following year the same hives were in competition. My hive was awarded first, but on being consulted I agreed to compromise the matter, and allow Mr. Abbott to appear as equal. There were no medals awarded. Messrs. Neighbour's goods were too late in arriving, or the awards in many cases would have been altered.

It is a well-known fact that queen excluder zinc has as yet been a failure, creating labour for the bees, and by keeping the centre of the hive open the super combs are darkened. It has never been reliable to keep queens out of the supers, consequently much comb has been spoiled, both workers and drones being bred in them, and the latter often found dead in the supers. Mr. Hooker admits its failure in his article of June 4th, or why, if it was so good, was there necessity for a new pattern? I am pretty certain that if excluder zinc was to be used on our hives at the Heather there would be few supers. The bees swell to such an extent when there is a glut of honey, that they would actually have to adopt the modern idea, to store it below, then carry it aloft in small quantities.

The best way of using excluder zinc is as I described it some six or seven years ago, and which has been copied elsewhere—the plan of cutting it into narrow strips and running it between the bars. That plan was never attempted till it appeared in the *Journal of Horticulture*. I should be very sorry indeed to make a single misleading statement, and I now call upon Mr. Hooker to prove that I ever made “prior claim to any invention or improvement” not my own.

The form of the “standard” hive, with its flimsy frames of one size, is now altered, and has two different sizes of frames, which are heavier. At my suggestion, but not till then, was an effort made to rectify the error indicated.

In conclusion, may I ask Mr. Hooker to explain why it is that they have abandoned their original styles of hives, and are adapting ours which have been in use so long, although not prize-takers? If that alone is not good proof that I have been in the right, I do not know what is.—A LANARKSHIRE BEE-KEEPER.

[In consequence of extreme pressure on our space, we have been obliged to abridge this communication, and must request that any reply to it be as brief and concise as possible. Our readers prefer practical matter to controversial indulgences.]

## THE BRITISH BEE-KEEPERS' ASSOCIATION'S SHOW.

THE annual Exhibition of this Association, the twelfth held in connection with the Royal Agricultural Society's show, took place at Doncaster, June the 20th to the 26th, where “The Royal” held its fifty-second country meeting. At twelve o'clock each day there were lectures on bee management, with practical demonstrations, bee driving, &c., by Mr. Roland Green, who repeated his interesting lectures periodically during each day.

The lectures and manipulations took place in a bee tent, so made that visitors could hear and see all that was going on through a screen, without the least chance of their being stung. The bee tent was only a few yards from the exhibition of the bee department of the Show, and the lectures were listened to by thousands, who appeared to be greatly interested by what they saw and heard. On the last day of the Show several members of the Council of “The Royal” visited the bee tent and expressed themselves well pleased with the instruction given, and perfectly satisfied with the general management of this department, so ably carried out by Mr. John Huckle, the Secretary of the British Bee-keepers' Association. Among those present were Earl Cathcart, the chief Steward; the Mayor of Doncaster; Mr. Ernest Clark, the Secretary; Sir Jacob Wilson, Hon. Director of the Show, accompanied by Lady Wilson and several other ladies.

The Judges appointed to make the awards in the hives and honey classes, of which there were 144 entries, were Rev. J. F. Buckler, Bedston Rectory, Cheshire; Mr. W. B. Carr, Orpington, Kent; Jessie Garratt, Meopham, Kent; and Mr. Walter Martin, Wainfleet, Lincolnshire. The classes were open to all, the honey not being restricted to that of the present year.

Class 300, for the best collection of hives and appliances, to consist of three frame hives complete; one pair of section crates, fitted with sections; one extractor; one slow stimulating feeder; one rapid feeder; one smoker; one veil; one swarm box for travelling purposes; one nucleus hive; one travelling crate for comb honey; and any other distinct articles not specified; to be staged on 50 superficial feet. Five

only of the seven entries were staged.—First prize, Messrs. George Neighbour & Sons, 127, High Holborn, London; second, Mr. W. Dixon, 5, Becket Street, Leeds; highly commended, Mr. A. C. Jameson, 26, Collurgate, York.

Class 301, for the best observatory hive stocked with bees and their queen.—First prize to Messrs. Geo. Neighbour & Sons, Carniolian bees. Second, Mr. W. Dixon. Third, Mr. E. C. Walton, Muskham.

Class 302, for the best and most complete frame hive for general use, unpainted.—First prize, Messrs. Geo. Neighbour & Sons, price 24s. Second and third, Mr. C. Redshaw, South Wigston, Leicester, price 25s. and 20s.

Class 303, for the most complete and inexpensive frame hive for cottager's use.—First, Mr. C. Redshaw, price 10s. 6d. Second, Mr. C. Redshaw, price 12s. 6d. Third, Mr. W. P. Meadows, Syston, Leicester, price 8s. 3d.

Class 304, for the best honey extractor.—First, Mr. W. P. Meadows, “The Raynor,” price 30s. Second, Messrs. Geo. Neighbour & Sons, price 35s. Highly commended, Mr. Thos. Lowth, Riseholme, Lincoln, price 21s.

Class 305, for the best pair section racks.—First, Messrs. Geo. Neighbour & Sons, price 8s. 6d. Second, Mr. C. Redshaw, price 7s. Highly commended, Messrs. Geo. Neighbour & Sons, price 7s.

Class 306, for the best rapid feeder.—First, Mr. C. Redshaw, price 3s. Second, Messrs. Geo. Neighbour & Sons, price 6s. 6d. Highly commended, Mr. W. P. Meadows, price 3s.

I propose to give an illustration and full description of the hives, &c., to which prizes were awarded at a future time.

## HONEY.

Class 307, for the best twelve sections of comb honey.—First, Messrs. Sells & Son, Uffington, Stamford (last year's). Second, Mr. W. Woodley, World's End, Newbury, this year's Sainfoin honey, and I do not understand why this exhibit was placed second, as the sections were nicely filled. Third, Mr. W. Christie-Miller, Broomfield, Chelmsford.

Class 308, for the best six sections of comb honey.—First prize, Mr. J. Greenhill, Wimbledon (not uniform in colour). Second, Mr. Woodley. Here again I think this exhibit should have been placed first. Possibly the Judges do not like the rich golden colour of Sainfoin honey, although uniform. In my opinion the only honey that can compare with Sainfoin honey is that gathered from Raspberries.

Class 309, for the best exhibit of run or extracted honey, not to exceed 24 lbs.—First, Mr. A. J. Carter, Newfields, Billingham. Second, Capt. St. G. Ord, Bury St. Edmunds. Third, Mr. C. T. Overton, Crawley, Sussex.

Class 310, for the best 12 lbs. of granulated honey.—First, Capt. St. G. Ord. Second, Mr. W. Dixon. Third, Mr. J. T. Harveyson, Finchley.

Class 311, for the best and most attractive display of honey.—First, W. Dixon. This consisted of honeycomb worked to represent the Prince of Wales's feathers with A. E. on either side, last year's production. A crown of 1890 honeycomb and V.R. of 1889 all very well worked out, and shows that with the aid of comb foundation almost any device can be made. This exhibit well deserved the honours it obtained. Second, Miss Cooper, St. Nicolas Square, Leicester.

Class 312, for useful inventions introduced since 1889, silver medal, Messrs. Geo. Neighbour & Sons for section racks (for which they obtained first honours in class 305). Silver medal, Mr. P. Harbordt, Liverpool, for a hive readily put together by means of a piece of wood with male dovetails projecting on one side and at one end, the two pieces to be fixed together, having the corresponding sunk dovetails, so that when in position the male dovetail is pushed into the groove and holds the side of the hives tightly together at right angles. The object sought to be gained is the sending of hives in the flat in such a shape that they can be put together by an amateur upon arrival without the aid of a carpenter. This is an ingenious invention, and makes a firm and rigid hive, but great care will have to be taken that nothing but well seasoned wood is used or they will become loose in the joints. The hive is practically put together without nails. A bronze medal was awarded to Mr. W. P. Meadows for his new registered frame, in which the comb foundation is easily placed and firmly held in position when the metal ends are on. A certificate was given to Mr. W. Dixon for a swarming arrangement, also one to Mr. C. Renshaw for his patent glass sections, in what he calls an observatory rack. The glass sections are held together by small angle pieces of white wood, and are neat and firm. The above are all that have any special merit in this class. There were fifteen entries, but several of them were not staged.

Mr. J. Hewett of Sheffield exhibited metal frame ends and frames, and a rack with glass sections, also a frame of his Punic bees. If these Punic bees are exhibited again it is to be hoped they will have at least three frames in a suitable hive with bees and their queen, having brood and sealed honey, properly ventilated, with the means of egress and ingress similar to those observatory hives to which prizes were awarded.

Class 313, for the best model of a bee tent for lectures.—The silver medal was granted to Mr. F. Harbordt; this was the only entry.

Class 314, for the most interesting and instructive exhibit connected with bee culture.—Second prize, Mr. W. Dixon, for a case of specimens, a swarm on a branch of a tree, other natural specimens, photographs, &c. The Association is to be congratulated on having had a most successful Show.—JOHN M. HOOKER, 9, Beaufort Gardens, Lewisham, S.E.

[This report was prepared for our last issue, but owing to a press of matter could not be inserted.]





## TO CORRESPONDENTS

All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Tobacco (F. G. M.).**—Your former letter was not preserved, and it is difficult out of the many hundreds that have passed through our hands since it was received to remember your precise request. We think it was for a work on Tobacco. A very good one, illustrated, by Mr. E. J. Beale, F.L.S., can be had from Messrs. James Carter & Co., 237, High Holborn, London, but we do not remember its price.

**London Pippin Apple—Pears on Thorn Stocks (A. H. D.).**—The London Pippin Apple is an old English variety, and was grown in Somersetshire more than three hundred years ago. We have not seen it grown under the name you mention. We do not advise you to grow any varieties of Pears on the Thorn stock, because Quince and Pear stocks are far better. Pitmaston Duchess succeeds best on the Pear.

**Florists' Tulips (R. C.).**—Mr. Douglas gives very good instructions on the cultivation and management of these beautiful flowers in his work. Perhaps he may extend the matter in a new edition, which is wanted and would meet with wide acceptance. We think Rev. F. D. Horner wrote an essay on Tulips that is incorporated with others on different flowers, published in manual form, but we cannot remember by whom it was issued. If you write to Mr. Horner, Lowfields, Kirkby Lonsdale, we have no doubt he will readily advise you on the subject.

**Azaleas Unhealthy (Kentish Subscriber).**—When these plants become very unhealthy they are difficult to restore. If you will describe the treatment your plants have received we shall be in a better position to advise you. We should like to know their size, the size of the pots they are in, if they have been shifted, and where they have been kept summer and winter—indeed, the conditions under which so many have died. At present we have no data to aid us in finding the real cause of the misfortune, and it is necessary to comprehend it before prescribing a remedy.

**Strawberries not Swelling (M. R. D.).**—We have seen large beds of Strawberries practically ruined this year by the sharp frost which occurred when the plants were flowering. The samples you have sent appear to have been first injured by frost, then attacked with mildew. If the plants are old and much crowded, thinning out the crowns, then giving liquid manure copiously and a surface dressing an inch thick with fresh rich soil, would improve them considerably. We regret your affliction, and are glad you derive pleasure in information from your "favourite paper."

**Fruit and Vegetable Farm (H. N.).**—You omit to state whether you have any interest in the farm or not. We are, however, pleased to learn that such a good start has been made, and know that the soil and district are favourable for the cultivation of fruit and vegetables. We trust your prognostications will be verified, as they may be to a large extent under capable management. Everything depends on that. Individuals, with capital and practical knowledge, not infrequently succeed in an undertaking when boards of advisers do not make equal progress through differences of opinion that are apt to arise. We could tell of more than one failure through this cause. A competent despot may accomplish more than a "board."

**Mushrooms and Maggots (Mushroom).**—Nothing, so far as we know, that can be applied to the beds when earthing will prevent the small black flies attacking Mushrooms in hot weather. Mushrooms can only be obtained fresh and good in summer in very cool places, and if dark so much the better. Thick and very damp coverings are the best preservatives for exposed beds, and the produce must be cut young, as putrefaction soon commences in hot weather, flies and maggots inevitably following. The covering next the soil should be distinctly wet in summer, and if the litter is frequently sprinkled the beds are cooled by the ensuing evaporation, this always extracting heat from the surfaces to which moisture is applied in hot dry weather.

**Carnations Dying (R. M.).**—Whatever small white worms you may have sent shrivelled in transit in the dry box. They were probably the young of one of the millipeds (Julus) which sometimes do considerable injury, but we doubt if they have caused the death of the plant, of which you have sent a portion of stem. This appears to have fallen a victim to the wireworm, and when this enters the stems there is no cure. Wireworms may be caught with bait of Carrots placed in the ground among the plants, with sticks thrust through them for con-

venience of examination and extracting the enemy. Clear lime water might be of some service in your case, or a dredging of nitrate of soda at the rate of an ounce to the square yard, watering the ground, if dry, before the dredging, and also immediately afterwards.

**Worms in Carrots—The Beet Fly (A. H. E.).**—If the worms are in the roots they are beyond the reach of applications for destroying them. You might make a trial of petroleum (commonly called paraffin), mixing about two wineglassfuls in 3 gallons of water, pouring it along some of the rows. If the roots are much infested sow at once a breadth of Early Horn, and you will have a supply of clean useful roots in the autumn. The maggots are caused by a fly, but the period of depositing eggs will have passed by the time the late-sown Carrots are in growth. Your Beet is not attacked by the Celery fly, but the Beet fly, and the fact that the plants under trees are free shows that the fly likes sun better than shade. The Celery fly never attacks Beet nor the Beet fly Celery. Frequent dredgings of soot act beneficially.

**Fern Unhealthy (F. G.).**—Are you sure the plant has not become too dry at the roots occasionally before water was applied? When the pots of Ferns are much crowded with roots it is scarcely possible to give too much water at this season of the year, and the plants enjoy a shaded position and a moist atmosphere. If your plant is in the condition indicated stand the pot in a saucer into which the water that is poured on the soil may be collected, and when this vanishes by evaporation apply more to the soil to drain through, and thus continue throughout the summer. Clear, pale soot water, or water tinged with cow manure, given once or twice a week might be of service in invigorating the plants. Remove carefully all discoloured old fronds, and take especial care that insects do not infest the new. They are the cause of many failures.

**Vine Leaves Warts (R. H.).**—The leaves have good substance and are perfectly clean, but the greater part of their under surfaces are covered with warts, and the upper with corresponding dimples. It is a bad case of contraction of the sap vessels caused by a sudden depression of temperature and withdrawal of atmospheric moisture. It usually arises through the house having been kept close, moist, and warm, and then cold air admitted, which causes the tissues to contract and the stomates to become swollen. There is no remedy but a more careful admission of air, especially earlier in the day, and increasing it with the advancing temperature, taking every possible care to prevent chill. It mostly prevails in Vines that are in a high state of fruitfulness, or in those that have been enfeebled by overcrop and are not very active at the roots. In this last case a judicious application of tepid liquid manure to the roots often stimulates the Vines and secures freer growth, but the chief cause of warts is a chill.

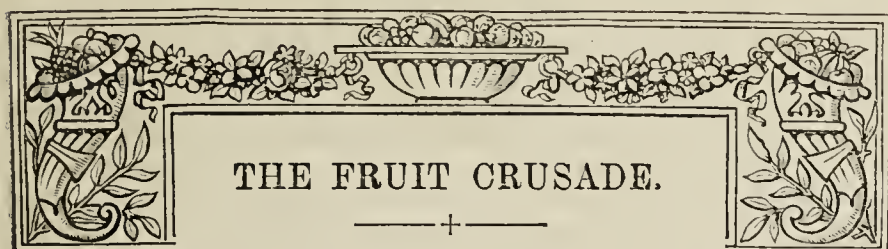
**Stands for Carnations (A Thirty-years Reader).**—The following extract from the schedule of the National Carnation and Picotee Society (Southern Section) gives the information you require. "To obtain uniformity it is urged that the collections be shown in each case in boxes, of which, for twelve, the following are the dimensions—viz., three rows of four each, from centre to centre,  $3\frac{3}{4}$  inches; from centre to outside,  $2\frac{1}{4}$  inches; outside length,  $15\frac{3}{4}$  inches; width, 12 inches; depth,  $4\frac{3}{4}$  inches; to be painted green. The collections of sixes should be in three rows of two each, with the flowers at the same distance from centre to centre, and centre to outside, as in the collection of twelve. The collections of twenty-fours may be composed of two boxes of twelve, making three rows of eight in each row, or in one box as may be convenient to the exhibitor, but the same spaces should exist between the flowers." The annual Show of the Society will be held on the 21st inst. in the Volunteers' Hall, James Street, Westminster.

**Carolina superba Strawberry (F. A. G., Tunton).**—We are pleased to find you have profited by our remarks. You have sent fair samples of your plants, and the fruits arrived in good condition. They could not be in good colour under the circumstances, and no doubt you have gathered some larger. The above is the name of the variety, and is described as follows in Dr. Hogg's "Fruit Manual":—"Fruit, very large; ovate, sometimes inclining to cockscomb shape, with an even surface. Seeds, not deeply imbedded. Skin, pale red, extending equally over the whole fruit. Flesh, clear white, very firm and solid, with a fine vinous flavour and rich aroma, equalling the British Queen. The plant is much hardier, a freer grower, and better bearer than the British Queen; when forced it does not bear so well." That description is of well-grown fruit in the best of condition. Carolina superba was raised at Bath by Mr. Kitley about fifty years ago, and is perhaps not so much cultivated as its merits deserve. We have found it a robust grower in good soil.

**Melon and Cucumber Roots Diseased (West Suffolk).**—The abnormal appearance of the roots is caused by a microscopical worm one-hundredth of an inch long, known as an eel worm of the genus Anguillula, increased from eggs which are found in myriads with the aid of the microscope. The disease when virulent, as in your case, is incurable. By the judicious use of stimulants such as nitrate of soda, and maintaining a high temperature, the plants may sometimes be improved. At a convenient time the soil should be burnt, and the entire house, floors, walls, and every part cleansed as thoroughly as you can cleanse it in the hope of extirpating the enemy. If the loam to which you allude is light it would undoubtedly be improved by clay sufficiently burned to be smashed into powder, raw lumps being of small service in comparison. If the unaffected plants in the frame are supplied with water from a different source from that which affords the supply for the infected house the latter source must be regarded with extreme suspicion.

**Insects on Cucumbers and Roses (S. H. Stott).**—As you say you are sending specimens to an entomologist we will confine ourselves to a practical reply. The Cucumber leaves are in a deplorable state





IF hardy fruit culture is not revolutionised in this country in the course of a few years it will not be through lack of endeavour on the part of individuals and organisations taking an interest in the subject. Many times and oft have we directed attention to the exhausted orchards and patriarchal trees which have too long been relied on to afford produce for the consuming population. The average standard of quality of our home-grown fruit had become deplorably low, and the higgledy-piggledy mixture of varieties, the majority of them worthless, and the rough and reckless methods of handling and marketing the crops, rendered the produce untempting and of comparatively little worth. Time after time have we directed attention to these cardinal defects until at last public interest became aroused, and now the tide has turned. Nurserymen and amateurs, societies and companies, growers, showers, and philanthropists appear to be vying with each other as to who and which can do the most in "carrying it to the flood that leads to fortune." But it will not bring fortunes to all who rush headlong into the work of planting trees that they fondly hope will certainly and soon give them golden harvests. Knowledge is the first essential to success.

We are glad to see the wholesome, friendly, stimulating rivalry now existing. It is a healthy sign. No great good is done by monopolists, except to themselves. If all the nurseries in the kingdom were rolled into one tree would neither be better nor cheaper, but somewhat the reverse. They are better as they are for the greatest number, and not worse for those who are compelled by the powerful law of competition to conduct them so well, and thus benefit, as they should, by their enterprise and skill. Similarly in the fruit crusade the most good will be done by the different agencies working separately, yet in harmony towards the achievement of a common object for the benefit of the whole community. The work in which so many are worthily engaging is of national importance. Fruit well grown in every garden in the land that is suited to its production, would of necessity enhance the wealth of the nation to the advantage of cultivators as well as the great multitude of consumers in our cities and towns. We wish well to all who are honestly and disinterestedly sharing in a work which is so good in itself, and if wisely conducted will be of service to many.

The season's crusade opened under bright auspices on Monday last, when the greatest and most important meeting yet held on the fruit question assembled in the Egyptian Hall of the Mansion House, under the presidency of the Lord Mayor of London. This is a distinct step in advance, and the work had the immediate countenance of the Minister for Agriculture, the Right Hon. Henry Chaplin. It was brought about by the influence of an ancient City Company—the Fruiterers'—which has become revived, and is now working with the energy of youth. The present Master of the Company, Sir James Whitehead, Bart., gave great prominence to the fruit question during his mayoralty, and a past Master of the Fruiterers' Company, Mr. H. R. Williams, gave his powerful support to the movement. With the object of affording the citizens of London ocular demonstration of the fact that the most important hardy fruits, Apples and Pears, can be grown at home as well as abroad by those who understand their cultivation, it was determined to provide a Show in the Guildhall

last year. Its success was overwhelming, and its effect so great as to command the attention of the City authorities, and the highest and most influential personages in the kingdom. Thus it was that the Mansion House was opened to fruit growers and patrons to encourage them in their work and to pass resolutions, having for their object the providing of means for the dissemination of knowledge in aiding occupants of land to devote a portion of it to fruit culture under the guidance of competent advisers.

The Lord Mayor in giving countenance to the movement adverted to the use of fruit as a wholesome article of diet, and expressed the hope that the supply would be both increased and improved. Mr. Chaplin delivered a very practical speech, and adduced authoritative statistics showing that millions of money were lost to this country by negligence or apathy in dairy and poultry management, then passed to the subject of fruit. Respecting the value of the importations he wisely discriminated between the fruits that could and could not be profitably grown in this country. Misleading statements to the effect that fruit to the value of £8,000,000 was imported that might be grown at home were so often repeated two or three years ago that we felt it our duty to correct them, and stated on March 7th, 1889, that the foreign trade with which our fruit growers could successfully compete was much nearer £1,000,000 than £8,000,000 in annual value, and we showed that the average value of the importation of Apples over a period of six years then ending was £750,000. Mr. Chaplin estimates the value of such imported fruits last year as can be grown in this country at £1,200,000, of these Apples being valued at 800,000. Thus what we said two years ago the Minister of Agriculture confirms. The value of imported Apples last year was £50,000 above the average, this being accounted for by the comparative failure of our crops. It is prudent to recognise the contingencies to which fruit is liable; but failures from differing causes occur abroad, and do not deter from further effort, neither should they deter at home, but all should strive who have the means to grow more and better fruit. Mr. Chaplin moved, and Lord Egerton of Tatton seconded, the following resolution, which was passed unanimously:—

"That in the opinion of this meeting vigorous efforts should be made to restore the orchards, and promote the extension of hardy fruit cultivation in our homesteads and cottage gardens, and that the Lord Mayor be invited to open a subscription list with the object of obtaining the necessary funds to enable the Fruiterers' Company to carry out their purpose."

Sir James Whitehead, in supporting the resolution, indicated the methods of procedure. He thought that in promoting their present object they should follow the lines of the Royal Agricultural Society to a very great extent. They proposed to hold annual exhibitions in different parts of the country; to obtain the co-operation of local societies; to give prizes, medals, and certificates; and to organise a system of lectures by competent, practical men, who would give demonstrations both oral and ocular, and spread information as to the best positions for orchards and fruit trees, as to soils, pruning, and the treatment of insects and grubs, and as to the best means of making jams and preserves for winter use. For these objects they wanted public approbation and subscriptions.

On the proposition of the Baroness Burdett Coutts, who made a sympathetic and much-appreciated speech, an influential Committee was appointed, consisting of various noblemen, the Lord Mayor, Masters of City Companies, members of the Court of the Fruiterers' Company, and their pomological advisers (Messrs. G. Bunyard, J. Cheal, A. H. Smee, T. F. Rivers, and J. Wright) to take steps for carrying out the foregoing resolution.

The medal and certificates awarded at the Guildhall Show were presented to the successful competitors, and a hearty vote of thanks to the Lord Mayor closed the first and highly successful



ceeing of the season's crusade. The next will be held under the auspices of the British Fruit Growers' Association in Beddington Park, near Croydon, Sir James Whitehead presiding, and a large gathering is anticipated.

### PERSIAN RANUNCULUS.

WHY do not people grow these more? Such is the question that has come to my lips very often during this month as I have looked out upon my two beds of these most charming flowers. Do you delight in variety of colour? I say advisedly I do not know any class of flowers where the range is so great—from black, at least as black as we get in any flower, to pure white, through every shade of red and yellow, olive green with yellow ground edged with darkest markings like a variety of Picotee; some striped like a Carnation, others spotted, veined; in fact there is hardly a tint of colour which exists in flowers that may not be found in a good bed of Ranunculus. Then do you admire symmetry of form? What can be more exquisite than the beautifully moulded petals of this flower? Some may term it formal, and all double flowers as compared with single ones are liable to this charge; but withal there is an exquisite finish in the form of these flowers that wins admiration, perhaps even from the rigid botanist who declaims against all these things as monstrosities and violations of the laws of Nature.

One objection to growing the Ranunculus has been their supposed difficulty of cultivation, and as it was practised formerly, and as I practised it for some years, there was some difficulty. One used to imagine that the depth at which they were to be planted was to be so exactly gauged (an inch and a quarter) that I used to have my beds boarded round and then a board cut to the required depth was forced into the beds, making a drill of that depth, at the bottom of which the tubers were placed, and then covered over; but I have found that this exactness was altogether unnecessary, and I plant now without any contrivance of this kind. I endeavour to plant them about this depth, and am convinced that shallow planting is required, but I do it in the ordinary way—draw a drill with a small hoe and then plant.

The plan which I adopt with regard to my beds, which are about 35 feet long and 4 wide is to prepare them in the autumn. The soil is ordinary light garden soil, and in the month of October if it is in a fit condition I dig in a good supply of old hotbed refuse, between three and four barrowfuls to each bed. This is left through the winter, and if there is frost it is turned up roughly so that it may get the full benefit of it, levelling the soil, and perhaps destroying grubs, &c. I say perhaps, because I am somewhat doubtful as to the effects of frost. About the 12th of February I prepare for planting, but I am not particular as to date. If the weather is favourable before that I do not hesitate to plant, and if it is unfavourable at that time to defer it for a little longer. It is, I think, essential that the soil should be in good condition at planting time. The bed is then raked down and levelled, the rows are drawn about 4 inches apart, and as I have said from 1½ to 2 inches in depth. I have previously gone through my boxes, for I do not keep to names, but grow in mixture, and pick out for the principal bed the largest tubers. Allowing for three rows to a foot and twelve in each row, the bed will take about 1250. Of course smaller beds can be made. As the Ranunculus, like most of its family, is fond of water, a dry spring is against them, and I found at one time that my blooms would be defective, but abundant rains came and I only gave water once; and during the many years that I have grown them I do not think I have ever had blooms so much to my satisfaction. Formerly I used to take a good deal of trouble to place an awning on the beds; for some years I have discontinued it, and am quite satisfied to do so for the future. The flowering season may be a little shortened, but a good deal of trouble is saved and the beds look better.

The harvesting of the roots is a matter of supreme importance. They must not be taken up before they are ripe, or they will shrink very much, and be feeble next year; nor must they be left too long, which is even more fatal to them, as they then begin to start, and when this is the case the tubers are good for nothing next year; so that should showery weather occur, as it very often does in the early part of July, a good deal of watchfulness is needed to catch the right time for lifting them. They should be placed after the foliage has been cut off in a cool shady place, where they can get all the influence of the air without being exposed to direct sunlight. A cool open shed is a capital place. They can be laid out thinly, and when they have been thoroughly cleared of all dirt they may be placed in boxes and brought into the house and placed anywhere free from frost.

As to varieties, there was a time when we had two great home growers, who had largely contributed, by raising seedlings, to the

beauty of our beds—Mr. Carey Tyso of Wallingford, and Mr. George Lightbody of Falkirk. They have long since passed away, and now one has to go to that grand emporium of bulbs, Holland, to procure a collection. Some years ago I obtained from Messrs. Ant. Roozen & Son of Overveen, Holland, a few hundreds of Persian and Scotch (so-called) varieties. They were all named, and have, with some remains of Lightbody's collection, formed the foundation of my present one. I put them into mixture, knowing that I should probably have to weed out a good many, and so the event proved. Neither in these nor in Tulips are they so particular as to correctness of form, and admit amongst their Ranunculuses many that are not sufficiently double, and which show the black centre much too soon. These I have gradually weeded out, and I can now look on my beds with much satisfaction. I have often mentioned those which I saw as a boy, and which bear out the love that I suppose was in me, and like our tarts and Apples of those days, think there are none like them now. But I give way now, and think that this year mine were as good. Whether I shall ever see it so again, who can say? Enough to have enjoyed the present, and leave the future.

Of late years there has been a race introduced which is called the Giant French Ranunculus. The flowers are much larger than the ordinary Persian varieties, but they are not so double, and have the great defect of showing the eye very soon. They are brilliant in colour, but not so varied. They make a good show in the garden, but will not please the critical taste of a connoisseur.

I hope that what I have said may induce some to try to grow this beautiful flower. They will not do in stiff or clayey soil, but succeed in good ordinary garden soil, and I think we know quite well that nothing can do well in gardening or in anything else without care.—D., Deal.

### A CALL AT READING.

As indicated on another page a call was made at the interesting trial grounds of Messrs. Sutton & Sons early in the month. They may be described as constituting a museum of flowers and vegetables, arranged in the most orderly manner, and in which the work is most carefully and systematically conducted. There is nothing of promise that can be had either from home or foreign sources that does not find fair trial there, and the results are accurately registered. Hundreds of varieties of Peas, Lettuces, Potatoes, Beans, and other crops are grown under equal conditions, their characters determined, and selections made. Only early varieties were sufficiently advanced for displaying their relative merits.

Just to name one or two of each kind, it may be said that among Peas the Improved or selected Ringleader was perhaps the first, but the new Early Wrinkled Marrow, Sutton's A1, was close at its heels, while the massive pods and large tender peas took the shine out of all. It was the Pea of Peas then ready in the extensive collection, and has no doubt a great future before it. A round, blue-seeded Pea, Bountiful, is expected to prove one of the best for market gardens. Among the Potatoes not Ashleafs, Ringleader is a distinct advance, first-class in quality when dug and cooked immediately, and first-class also after the tubers have been stored for twelve months, as was proved by its raiser, Mr. Fenn, who had both new and old on his table with the Cabbage and bacon at home. Then following it quickly for early use is the round and superior Early Regent, also a Fennian and a favourite. Next we passed down the Lettuce ranks, and here, out of the hundreds in Cos varieties, Sutton's White Heart must be written down as the best. It may be described as green outside and white in, distinct from all others, uniform, self-folding, firm and good. In the Cabbage section there was great diversity, some firm, some spreading, some bolting, and it can only be said here that Sutton's Favourite and Commadore Nutt had no superiors at the time. Beans and various root crops were not ready.

In the flower trial grounds and the houses in which Gloxinias, Begonias, Cyclamens, and other plants are so admirably grown there was much more to be seen than can be described in a passing call. Gloxinias were in full beauty, a forest of upright flowers from 3 to 6 inches in diameter, in colours the most diverse that can be imagined from the purest whites to the richest purples and crimsons, many chastely spotted and others marked as if with a network of lace; while the plants were equally noteworthy for their robust leafage and general vigour. It will be perfectly fair, just, and true to describe them in a sentence as splendid varieties splendidly grown—a description which is absolutely devoid of even an approach to exaggeration. Begonias were just unfolding their stout symmetrical flowers in soft and brilliant hues, and are by this time probably as imposing in their way as were the Gloxinias.



A number of plants of the new *Achimenes Rosy Queen* must have impressed the charm of this variety on all visitors. It is distinct from all others of the genus, floriferous, chastely effective, and destined to find its way into all gardens in which *Achimenes* can be grown.

In the grounds all kinds of half-hardy annuals are on trial, but time is needed for their development. Seedling *Verbenas*, however, forced themselves on attention by their extraordinary vigour and fine trusses of flowers. Though planted 2 feet apart in rows 3 feet asunder they were fast covering the space by their luxuriant stems. The plants were raised from seed in February, and were being grown in blocks of separate colours, such as scarlet, white, purple, and others. It was surprising to see how "true" they had come to the parentage; they are, however, most attractive in mixture and afford any number of sweet flowers for cutting. Seeing how easily the plants can be grown from seed *Verbenas* must come back to our gardens. Carnations from seed were affording a bountiful supply of beautiful flowers.

A new annual (*Nemesia*) was flowering that appeared quite distinct. The plants were about a foot high, with a *Dianthus*-like habit of growth, and producing trusses of orange red flowers about half an inch across, the colour reminding somewhat of the old *Diplacus glutinosus*, but varying in different plants. This *Nemesia* promises to be an acquisition to summer flowers, readily obtained from seed. But in view of a journey ahead this call on the way must close, however great the temptation to linger in the trial grounds and pick up hints worth having from the attendant experts.—FENN'S PUPIL.

### THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

WE have pleasure in giving a full report of the principal speeches that were delivered on the occasion of the fifty-second anniversary Festival of this Institution, held on Wednesday evening, 8th inst., in the Hôtel Métropole, the Right Hon. Joseph Chamberlain, M.P., presiding, supported by Lord Stanley of Alderley, Sir J. T. D. Llewelyn, Bart., the Revs. Canon Cromwell and W. Wilks, with Messrs. Harry J. Veitch, H. J. Adams, and N. Sherwood; Messrs. Douglas, Cannell, Ingram, Munro, and Willard presided at the side tables; the attendance numbered 170; the decorations were tasteful, and dessert excellent. The toast list was commendably short, and the opinion appeared unanimous that a more enjoyable evening had never been spent at any previous gathering of the same nature. The Chairman received a great ovation, and his speech was anticipated with considerable interest. It was a graceful and elegant rather than a powerful oration, was listened to with the closest interest, and met with the utmost approval and the warmest applause. Mr. Veitch spoke admirably, and, indeed, all the speakers acquitted themselves well, though they all felt and admitted the overwhelming influence of the Chairman and his highly finished method of delivery.

The CHAIRMAN, in proposing the first toast, spoke as follows:—My Lord and Gentlemen, I have the pleasure of proposing the health of Her Majesty the Queen, their Royal Highnesses the Prince and Princess of Wales, and the rest of the Royal Family. I am quite sure that it is altogether needless for me to stimulate your loyalty on the present occasion; but I may remind you that the Queen and the Prince of Wales are patrons of this Institution, that the Duke of Connaught took the chair at one of your previous festivals, and that many members of the Royal Family are generous donors to the funds of the Institution. The Royal Family have always taken a discriminating interest in horticulture, and have always shown a generous consideration for those who have pursued it in their service, and hence, I think, their names will be fitly commemorated in succeeding generations by the flowers and fruits with which they will always be associated.

The SECRETARY (Mr. George J. Ingram) announced that letters had been received from the following gentlemen expressing regret at their inability to attend:—Lord Ribblesdale, the Earl of Derby, the Earl of Carnarvon, the Lord Mayor, Baron Schröder, Sir Trevor Lawrence, M.P., Sir Thomas Fowell Buxton, and Mr. Brymer, M.P.

The CHAIRMAN then said: My Lord and Gentlemen, I have now the pleasure of proposing "Continued Success and Prosperity to the Gardeners' Royal Benevolent Institution." (Cheers.) Three years ago I was honoured with an invitation to be present at a similar gathering; but, to my very great regret, at the last moment I was prevented by indisposition from putting in an appearance, and I confess I am thankful to the Committee for having now given me an opportunity of performing what I regard as at once a privilege and a duty. (Cheers.) Gentlemen, I suppose we may differ greatly upon many questions, but I think I may at least assume that we are all united in our interest in, and our love of, horticulture. Under these circumstances I do not need to make any defence of our favourite pursuit. It has provided rest for, and brought happiness to, many of the greatest and wisest in the land. Statesmen have found recreation in it, philosophers have commended it, doctors have prescribed it, lawyers have advocated it, and poets have sung its praises. The great Lord Bacon, who devoted one of his Essays to the subject, said, "The cultivation of flowers is the purest of human pleasures, and a great refreshment to the spirit of man;" and he did not think it

at all beneath his dignity to leave behind him the most careful instructions as to the formation and planting of a perfect garden. But I venture to say that one of the greatest recommendations of our hobby in this democratic age is, that it is capable of affording delight to rich and poor alike, and that it can with the greatest ease be accommodated to the income of the millionaire and to the scanty pittance of the humblest labourer. Another statesman, Sir William Temple, has written very truly that gardening is at once the pleasure of the greatest and the care of the meanest, and a cottage garden is capable of affording as much delight to its owner as the finest conservatory attached to the lordliest mansion. A new variety of the Pansy or the Auricula, reared by the careful skill and the tender care of a village amateur, is to him probably a source of as much pride and self-glorification as can be to another the most costly exotic or the scarcest Orchid that ever was imported. I claim, therefore, for all that concerns the cultivation of flowers that it satisfies that love of natural beauty which is inherent in almost every human breast, that it cultivates our intelligence and powers of observation, and at the same time provides variety and excitement by the constant novelty which results from the attention we give to it. And while it does all these good things it is, I believe, the most unselfish of pleasures; for it is enjoyed the most in the largest company, and, unlike some other amusements to which the race is prone, ours inspires no evil passions, inflicts no pain, and causes injury to no man, either in his character, in his health, or in his estate. (Cheers.)

Gentlemen, under these circumstances, it must be a matter of congratulation to all of us that gardening in all its branches is daily increasing in popular favour and attention. Never, I think, before has the use of flowers as decorations been so lavishly and extensively employed. Flowers may be said to accompany us from our cradle to our grave. They adorn our houses, they grace our banquets, and, I may be allowed in passing to thank those who have provided so generously for the delectation of our eyes and for the gratification of our palates in the fruit and flowers shown on these tables. Flowers, I say, adorn our houses, they grace our tables, they add a new charm to female loveliness, and they do something to relieve the repulsive ugliness of masculine apparel (laughter). The interest which is felt in our pursuit is shown by the crowds which attend our great horticultural shows; and we see that thereby our principal growers are stimulated to new efforts. Each favourite flower in turn is taken in hand and improved and developed, while the uttermost corners of the globe are ransacked to find new beauties and new varieties. And in connection with all this enterprise there is a romantic side to horticulture which perhaps has hardly received the attention that it deserves. You all remember how last year the whole world felt a common interest in the recital of the difficulties which had been undergone in the adventurous progress of that little band which penetrated the dark forests of Africa in search of and to relieve Emin Pasha; but I venture to say that there are scores of modest explorers whose names are unknown except to a few who undergo difficulties as great and encounter dangers as serious as those which were happily overcome by Stanley and his followers, animated only by a love of natural science and a spirit of enterprise. The history of many flowers is a record of persistent and courageous achievements, carried out in face of extraordinary difficulties and labour, and unfortunately it is a record which has been made memorable by great sacrifices, by loss of health, and in some cases by loss of life. Horticulture, gentlemen, has its heroes and its victims as well as war, and it behoves us to bear their names in respectful and admiring remembrance. And it is not only adventurers who are always seeking "fresh fields and pastures new" who are deserving of our sympathy and gratitude. I have already quoted Sir William Temple. In another place he says very truly that in the growth of flowers success is wholly of the gardener, and I think you will admit that without the constant care, intelligence, and industry of those who are primarily responsible the most lavish expenditure and the most perfect apparatus would be of little avail to secure a satisfactory result. How, then, shall we repay our debt to those who in this respect have ministered to the pleasure and interest of our lives? (Hear, hear.) The profession of a gardener is a very interesting one, but at the same time I think we must allow that it is not too highly paid. The prizes are few, and the conditions of the life are such that it is hardly possible even for those who are most thrifty and most industrious in the profession to make adequate provision for all the eventualities of life. I have sometimes thought that perhaps the most pathetic position in which a man can be placed is when one who has spent a long life in honourable industry finds himself as age approaches with diminished capacities, and with ever declining resources, face to face with a future which has no bright spot, a future which offers to him only the prospect of the poor house as a refuge for his old age. Recent inquiries have convinced me that this unfortunately is the condition of a large proportion of our working class population, and I have thought that the time is come when it is urgent that the state should intervene to remove what seems to me a blot and a scandal upon our civilisation (cheers). But in the meantime worn out veterans in our industrial warfare have their only hope in the operations of such a Society as that for which I plead to-night.

I commend to your generous support the principles of this Institution. Its object is the relief of the aged and distressed. The subjects of its bounty must have passed the age of sixty years, and must have spent twenty years of their life at least in a responsible position. Preference is given, as it ought to be given, to those who have endeavoured to help themselves, and those who have been for a considerable time contributors to this Institution, and relief is given in the best



form in which it can be offered. The funds of the Institution are not wasted on buildings and costly administration, but the whole of them are paid away, and the recipients are enabled without breaking up their homes to pass the remaining years of their life in comparative comfort amongst their own relatives and friends. (Cheers.) The Institution has now lasted for more than half a century, and it has had a career of continued and increasing usefulness and prosperity. At the present time, as I learn, there are 156 pensioners, male and female, and they are receiving the bounty of our Society at a cost of something approaching £3000 a year. My Lord and Gentlemen—It only remains for me to appeal to you, and appeal to all who have derived profit or pleasure from the gardener's skill, to assist this Institution to meet all the claims that may be made upon it, so that no deserving applicant shall be turned away, so that all shall find relief in their time of need; and I feel assured that we shall all take the greater pleasure in our pursuit if we know that those who have grown grey in their service will not suffer want or dishonour in their declining years. In proposing this toast I shall couple with it the name of Mr. Harry Veitch, a name which for its owner's own merits as well as for the services which have been rendered by his family to the Institution through a long course of years, may very fitly be associated with the toast of the evening. (Cheers.)

HARRY J. VEITCH, Esq., said:—Mr. Chairman, my Lord, and gentlemen, in responding to the toast which has been so eloquently proposed, I feel that it is not necessary that I, as Treasurer of the Institution, should enter into any statistics this evening with reference to its affairs. On a similar occasion to the present this time last year, when my friend, Mr. Sherwood presided, the details of the work of the Institution were given very fully, and it is not necessary that I should repeat them. But there are one or two points to which I should like to allude. In the first place, sir, I must thank you as Chairman for the admirable manner in which you have advocated the cause of the Institution. (Cheers.) I am quite sure that the weighty words which have fallen from your lips have found not only an echo but a resting place in the hearts of all who heard them; and I would offer you the thanks, not merely of the Executive, but of every gentleman present, for your kindness in coming amongst us this evening. Knowing as we all do how many public duties you have to perform we cannot fail to appreciate your kindness in devoting this evening to the claims of our Institution. You have, sir, alluded to the fact that we have 156 pensioners. Since our last festival our oldest pensioner has passed away. I should like to mention that that pensioner died at the age of 103, that he subscribed 1 guinea per annum for eighteen years, that he became a pensioner in 1872, and that he received up to the time of his death £520 from this Institution. That, I think, shows the advantage which may arise from a gardener becoming a subscriber; while if, in God's providence, he should never have occasion to apply to us for a pension, surely he ought to feel glad that he has been able to help others who have been less successful in life than himself. Some other pensioners have passed away since our last festival. Of those who remain the average age is seventy-two years and two months, and we do all we can to take care of them in their old age. But, while we have 156 pensioners, I think we ought to look a little at the other side of the picture. We took on eleven new pensioners in January last, but we had to decline fourteen applicants. One applicant was within seven votes of being successful; but for want of funds we were obliged to decline to add the name to the list, and that poor woman will have to wait until the next election, when I trust she will be successful. Since then we have had many other candidates, and although the Chairman has spoken of the Institution as a successful one, I can assure you that we are still sadly in want of funds, and I would earnestly ask you to bear in mind the kind words in which Mr. Chamberlain has pleaded our cause this evening. I should like just to allude to the death of some friends whose faces we miss this evening—I refer to Mr. B. S. Williams, Mr. Shirley Hibberd, and others. I must also mention the names of Mr. G. Deal, who was taken from us very suddenly; and Mr. Backhouse of York. I cannot help alluding to the death of one whose face you doubtless all well remember, our late Secretary, Mr. E. R. Cutler. It cannot be necessary for me to say anything in praise of Roger Cutler, who was the Secretary of this Institution for fifty years, and to whom it was my privilege to present a testimonial in acknowledgment of his long and faithful services not long before his death. Mr. Cutler was a man to whom this Institution owes a very great deal. He was elected as Secretary, I believe, at a time when there was neither a pensioner on the books nor any money invested, and when he was removed by death he left behind him 156 pensioners and £25,000 invested in Consols. (Cheers.) If he did not do all the work of the Institution, he did, at any rate, the lion's share, and the record of that fact appears to me the best monument that he could have. He was a wonderful worker. He was, I may add, at the office on Monday afternoon, and he passed away on Tuesday at two o'clock. As you might well imagine, the Committee were afterwards very quickly called together. I am thankful to say that we have a good Committee of Management, headed by Mr. John Lee. I am not myself on the Committee, and therefore can speak of it the more freely, and I do claim for the Committee that they met the terrible difficulty in which they found themselves on the death of Mr. Cutler in a manner that deserves our admiration and gratitude. I think you will all agree with me that the affairs of the Institution have not stood still since the death of the late Secretary, but have gone on well; and I feel bound to say, Sir, that we attribute this in a great degree to your having kindly consented to take the chair on the present occasion and thus support us in our difficulty. When you came forward to our assistance in our dilemma it seemed to give us fresh life, and I venture to say that this is

one of the most successful festivals that we have ever had. The Committee had, as it were, to take the bull by the horns, and I think they did the work before them wonderfully well. The first thing they had to do, in order to keep the Institution in good working order, was to elect a new Secretary. Then came a great difficulty. The applicants were most numerous. The Committee felt that there must be great difficulty in getting a man fit to succeed Mr. Cutler, but I do hope, and I do think, that we have in Mr. Ingram a man worthy of the position. (Cheers.) Let me add, gentlemen, that if you should find that everything is not at first quite what you have been accustomed to you must recollect that after fifty years' service there is likely to be something a little different, and I feel sure that if you communicate with the Secretary or with myself you will not make any complaint or remark in vain. I will not, gentlemen, detain you any longer. I thank you very cordially for having received the toast as you did, and once again I thank you, Mr. Chairman, for your kindness in presiding this evening. (Cheers.)

N. SHERWOOD, Esq., proposed "The President and the Vice-Presidents," and Herbert J. Adams, Esq., responded.

Sir JOHN T. DILLWYN LLEWELYN proposed "The Royal Horticultural and Botanic Societies of London and the United Kingdom," and the Rev. W. Wilks, M.A., responded.

LORD STANLEY OF ALDERLEY proposed, in eulogistic terms, "The Health of the Chairman," which was received with enthusiasm.

The CHAIRMAN said, I thank you very much for the compliment you have paid me, but, as I said before, it is a pleasure and a duty for me to have been present among you, and I claim to be one of your body. I have taken great interest in gardening for thirty years. During that time I have grown, or have attempted to grow, everything, from Dandelions to Orchids, and what I chiefly pride myself upon is Dandelions. (Laughter.) But I can assure you that in my devotion to this pursuit I have had my reward, and I believe it would be impossible for anyone to find a more healthy and delightful recreation, or a greater cure for trouble and anxiety, than is found in the pursuit of gardening. During all this time, or at least in later years, my business has been the business of politics, and my pleasure has been the pleasure of gardening. I sometimes think that a parallel or an analogy might be drawn between these two pursuits. The progress of political ideas and the growth of flowers have something in common, and they both require ventilation. (Laughter.) But I don't think the parallel ends there. It is certain that they both very often succeed best in heat. Then you know that in gardening we are troubled greatly by obstructive proceedings on the part of noxious insects, which we know by the names of thrips, red spider, mealy bug, and Orchid devil. (Great laughter.) Well, gentlemen, if you have read your newspapers you must be aware that we politicians are also troubled with insects (laughter), although I should be very sorry here to mention their names. Gentlemen, you will readily understand that, having derived much advantage and pleasure from this pursuit, I am delighted to have any opportunity of helping, however humbly, to provide in some measure for those who are also engaged in it, but under less fortunate circumstances. I again thank you very much for the compliment you have paid me. (Cheers.)

The SECRETARY announced that the contributions to the funds of the Institution in connection with the dinner amounted to £1450, including 50 guineas from the Chairman and 10 guineas from Mrs. Chamberlain.

A selection of music was performed under the direction of Mr. Herbert Schartau, assisted by Miss Ethel Bevans and the Meister Glee Singers (Messrs. W. Sexton, Gregory Hast, W. G. Forington, and Webster Norcross).



TEA ROSE MADAME CUSIN.

SOME extremely fine blooms were shown by A. Tate, Esq., Downside, Leatherhead, at the recent metropolitan Show of the National Rose Society at the Crystal Palace, and Mr. Mease, the gardener, has soon again taken a place amongst successful competitors after leaving the north. The bloom of Tea Rose Madame Cusin represented in the woodcut (fig. 7) was adjudged the prize as the premier Tea in the amateurs' classes, an honour it well merited, for beautiful as this variety always is, it was exceptionally so in this case. The flower was of great size, the outer petals broad and of remarkable substance, while the colour was richer than is usually seen. It was a centre of attraction for quite a crowd of rosarians during the day of the Show, and very seldom has it been equalled.

ROSE SOUVENIR DE LA MALMAISON.

This being a favourite variety, a considerable number of dwarf bushes on their own roots are grown in the open, and also against sheltered walls for the purpose of affording cut blooms. I have never yet known it to fail, but at one time it looked very much like a total loss, the late severe winter having much blackened the wood. Fortunately there were no losses, and many early blooms have been cut, a



successional crop being already well on the way. It is invariably one of the first to flower and the last to give blooms in the autumn, very few imperfect flowers being produced by plants on their own roots.—M. H.

#### OWN-ROOT ROSES.

Dwarf Roses on their own roots frequently survive frosts that prove destructive to Roses, on tall Briar stocks especially. If they are killed down to the ground they yet recover, the severe pruning, so to speak, having the effect of causing them to push up strong shoots from the buried stems. Own-root Roses will also succeed where worked plants fail. Unfortunately they cannot often be bought, and those, therefore, who require them must propagate their own stock. The simplest method

All the Teas strike readily this way, and many of the Hybrid Perpetuals, notably those with few or no thorns, strike readily if properly treated, and a capital lot of plants will be available either for pots or the open ground next spring, or sooner if required.

#### LARGE GROWERS IN SMALL CLASSES.

THE letter in your last issue shows that "W. R. Raillem" still regards the matter from one point of view only—the possible disadvantage to the large grower. The argument that at all costs the man with the big stock must be provided for, and the smaller one alone left to suffer in the event of bad seasons, is a most unsound one, and in more important matters your correspondent would be the last to advance it. Let me



FIG. 7.—TEA ROSE MADAME CUSIN.

of doing this consists of taking off ripened growths in 1 foot lengths, inserting them in the open ground much as Gooseberries are raised, this being done not later than November. Another good plan can be tried now. Frames or handlights may be placed behind a north wall and cuttings inserted in them. Choose young firm shoots from which a Rose has recently been cut, these being taken off with a heel or thin slice of old wood attached, and before the buds are bursting afresh. Two or three joints, the upper one or two being furnished with a healthy leaf, are all that are needed on each cutting, and heels are not absolutely necessary, so that lengths of firm young wood may be cut up into short pieces and struck. Dibble them in very firmly as fast as they are taken off and made, an hour's exposure or even less being fatal to them. Water them in, keep the lights close, and shade whenever the sun strikes on them.

refer him to the action of the trade growers this year. Two of them, who have won the champion trophy previously, found their blooms not ready, but instead of dropping back into smaller classes they did the right thing and stood out, although to a trade grower it is a far more serious matter to go unrepresented at such an important show than it is to the amateur. The question of "guarantee" as to ability to show has no bearing upon the matter. I presume no one rebels against difficulties caused by providential orderings in the matter of weather, &c., but everyone would object most strongly to be overwhelmed by a competitor possessed of immeasurably greater resources, as proved by his previous performances in the higher classes.

May I, with all respect, suggest to your correspondent that the motive he gives for men going into the large classes is a lamentably



low one—"The prizes are better, the competition less keen, &c." If once the principle, "How much can I get out of it?" is allowed to decide our actions in this or any other matter, then good-bye to the good fellowship and the *esprit de corps* which have hitherto so happily characterised N.R.S. exhibitors. "W. R. Raillem's" question as to what I meant by his old position I do not regard as written seriously.

I am very glad that this little controversy is not likely to decrease the esteem existing between those who take part in it; so long as they refrain from personalities, and "measures, not men," are the subject of their attacks, all will be well. The subject of a remedy for what I consider a grievance has my attention, and it is improbable that I shall trouble you any further until I think I have something practicable to propose.—J. B.

#### NOTES ON THE NATIONAL.

"A BAD season for the Roses!" "Yes, indeed; a small Show to day!" Granted, but in many respects one of the most enjoyable the Society has ever held; in fact, there were so many points of interest that the time for closing had arrived before one had time to fairly grasp them.

First among these special features must be mentioned the triumphant presence of many old Roses and varieties that are but seldom seen. The Général Jacqueminot in Mr. Knight's twelve, to which the medal for the best amateur bloom was awarded, was surely one of the very finest ever seen, and this grand old Rose now shares with his young rival Ulrich Brunner the honour of having won the medal in both the amateur and professional divisions. Then what splendid form our sweet-scented old friend Xavier Olibo was in all through the Show; but specially fine was the bloom in Messrs. Burch's stand, which was more than once considered for the medal in the trade division. Violette Bouyer, Barthelemy Joubert, Annie Laxton, Lord Macaulay, François Levet, and Dr. Hogg are varieties that do not often put in appearance at the shows now-a-days; but here they are to-day, some of them in very fine form.

To go from the veterans and their doings to the other extreme, this Show was remarkable for the fine form of the new Roses. Two or three years ago the names of Gustave Piganeau and Souvenir de S. A. Prince were unknown in the Rose world, and yet to-day they win the two medals for best H.P. and best Tea in the trade classes. The former seems to be a specially great acquisition, of good growth, fine size and form of petal, and beautiful glowing colour. It sent deponent home in a great hurry to work every bud he could find on one small plant. But the crown as queen of the whole gathering must surely be awarded to the fair Irish belle, Margaret Dickson, sent out only last month by those energetic growers, Messrs. Dickson of Newtonards. I believe no other Rose has ever won first prize for twelve of a sort in two classes at the same Show, and it was by no lack of competition that she achieved this triumph. The twelve shown in the classes for white Roses could only be characterised by one word—perfection. Not only was there no hint of a faulty bloom among the dozen, but there was not a soiled petal nor a damaged edge to be found. This grand novelty will be wanted by every grower, and will double Messrs. Dickson's already great fame as raisers, and abundantly reward them for their plucky run from Newtonards to Sydenham. Very full of promise, too, is Messrs. Paul & Son's fine seedling, so well named after their able Rose foreman, Charles Gater. A well deserved compliment, Mr. Paul, to an able assistant and good rosarian. Messrs. W. Paul & Sons also showed their fine Tea Corinna in good style, and if of free growth it will be very acceptable. Full of interest, too, was the fine collection of seedlings of various kinds shown by Lord Penzance, and if Mr. A. H. Gray got no award for his beautiful seedling from W. A. Richardson it was only because it was not shown in the class provided, and he must have been compensated by the warm eulogium passed upon it by the President of the Society, Dean Hole of Rochester. Nor was the interest confined to new Roses; but in the person of Mr. E. Tate of Leatherhead the Show produced at least one new exhibitor of great promise. This gentleman may have shown before, but if he has I have overlooked his name, and to-day he was first for twenty-four singles with a most excellent stand, beating such able growers as Messrs. J. Brown, Mawley, Gurney, Fowler, and Rev. Foster Melliar, and winning in at least three other classes. If he continues in this style those who are now at the top of the tree will have to buckle on their armour yet more firmly if they intend to retain their places.

Then, too, the Show was very interesting as "a soldier's battle," that is to say, the greater excellence was found rather in the amateurs' classes than in those of the professional growers. Mr. Lindsell's stand, though only winning from the Bath blooms by two or three points, was one of very level excellence. Mr. Tate's twenty-four has already been referred to, and coming down to Mr. Knight's first prize twelve we had a box which was a centre of admiration all the day long. In addition to the medal-winning Général Jacqueminot he had Duke of Teck in such form and size as must have gladdened the heart of Mr. Geo. Paul; Marie Baumann, such a bloom as I have not seen since she won the medal for Mr. W. J. Grant in the year of the Shah fiasco, and Alf Colomb and others in the very pink of condition. It was an oft repeated remark of several good judges that it was probably the finest amateur's twelve ever staged, and very proud was the writer to get an award in such company.

There are some of the points which made the National Rose Show of 1891 so specially pleasurable to visitors, and in the hope that they may be of equal interest to some of your readers who were unable to be present I send you these jottings.—J. B.

## PROLONGING THE SUPPLY OF HARDY FRUITS.

[First prize essay by Mr. A. WRIGHT, Devonhurst, Chiswick, Chiswick Gardeners' Association.]

(Concluded from page 4.)

### TRAINING THE TREES.

THE best form of training to adopt is that so well known as the "fan." This is without doubt the best for all stone fruits, as a young branch can be more readily laid in, if by chance any should go off with gumming. If on the other hand pyramid trained trees are to be grown, two rows may be planted in the bed, and at 5 feet or 6 feet apart. This will give ample space to form good sized trees, the fruit of which can be readily reached, and it would also be possible to give every attention to them. This system allows of double the number of varieties being grown in the same space. I am inclined to think that there would be little difference as to the quantity of fruit gathered from either system, but where variety is wanted pyramids should be planted.

Round the centre bed make a path 3 feet wide, and edge it with some suitable material. I know nothing better for this purpose than a brick on edge, or placed so as to allow the angle to form the highest part. This will leave a border 6 feet wide on each side. Devote one border to Gooseberries, making two rows, and plant the bushes 4½ feet apart, but have one row in the wake of the other, or what is well known in gardens as "crow footing." This would allow the bushes more room than if they were planted opposite one another at right angles. The other border could be planted with Red, White, and Black Currants, the number of each varying according to the demand. The ends of the houses are now left, and we plant these with Blackberries, which could be trained up the wire, or a trellis could be formed with two wires about 2½ feet from the end, and the plants trained to that. As regards the Alpine Strawberries, I propose planting a row of them on each side of the path round the house or have a row between the Cherry trees. A good supply of fruit could be thus obtained during the latter part of the summer and early autumn, as the plants continue in bearing a considerable time. The most suitable month for planting is October, as early in the month as possible, so that time is allowed for the trees to make some fresh roots before the winter, and enable them to start away strong in the spring. After planting (which should be done when the soil is in a dry fibrous condition) make the trees secure by placing a stout stake to each to prevent them being shaken about by the wind; and in tying them be careful to leave plenty of room for the swelling of the wood or the tree settling down in the soil. It is too often the case that when the trees arrive from the nursery they are at once planted, and if against a wall immediately nailed, with the result that they are often "hung up," and the cause of death never suspected.

### PRUNING.

Nothing further will require attention before the end of February, when pruning may be done. Cherries if grown on the fan-trained system will require little more than the tops of the shoots taken off, or if any strong shoots should be likely to outgrow the others on the tree, cut them back the same length as the weaker ones. The system of cutting the growths back to within 5 or 6 inches of the base, as recommended by different authors, finds few adherents amongst the present generation of gardeners. All stone fruit trees should be cut about as little as possible, and to avoid this in training the Cherry trees I would recommend summer pinching as being preferable. This also exposes the fruit better to light and air, and so improves the flavour. In planting Gooseberries select bushes having stems a foot or more high, which will keep the fruit from the ground, where it is apt to get spoilt after being ripe if the wet weather ensues. The best system of pruning to adopt with Gooseberries is thinning the young shoots, leaving plenty of young growths for fruiting. Spur-pruning still finds many advocates, but in the south thinning the shoots answers better. With Gooseberries I would also advise the removal of all strong growths from the centre of the bushes during the summer, so as to allow plenty of air to circulate among the fruits, and the wood is also better matured. This is often neglected in most gardens, but I think on account of the pressure of work in other directions at the time; but if one goes to the expense of erecting a protection for the trees every precaution should be taken to ensure the greatest success.

Red and White Currants should also be selected with clean stems at least a foot in length between the ground and the lower branches. The fruit is not only kept away from the ground, but suckers cannot form at the base of the bushes. The pruning I would advise being carried out on the spur system, so well known as to need no repetition here; but the same remarks apply to them as to the Gooseberry. With regard to the removal of all gross and unnecessary growth during the summer, Black Currants require somewhat different treatment as regards pruning, and the bushes should only be thinned out at the winter pruning. In cutting the branches back see that some are cut down near the base so as to encourage young growth, which will keep a good supply of young fruit-bearing wood from the base to the top, and so secure a larger crop.

Blackberries should be planted about 2½ feet apart, and the young growths trained to the end of the house, or if planted against a trellis leave sufficient shoots to tie in about a foot apart. Remove all superfluous shoots as they grow, and the old bearing wood will require to be removed every year, the young growths being laid in their place. If the latter are strong and robust they may be cut back to about 6 feet in length. Plant the Alpine Strawberries from runners in the usual



way, and the plants in the rows need not be more than 9 inches or a foot apart. This Strawberry is generally planted in beds, but will succeed better if allowed ample room. It will require to be renewed from time to time by runners or by the raising of seedlings as a means of producing distinct and improved varieties.

#### MANAGEMENT OF THE HOUSE.

The summer management of the house I have described would consist in having all the fruit trees mulched with long manure, such as may be had from the stables. This will prevent evaporation, and keep the fruit clean. During dry weather well water the trees and syringe the Cherries until the time the fruit begins to colour. If insect pests appear steps should be taken to destroy them. Black fly will be found one of the most troublesome to the Cherry, but can be kept in check by syringing with a mixture of soap water and quassia chips. If caterpillars infest Gooseberries and Currants hellebore powder is an effectual remedy. The usual way to apply it is by dusting the bushes, but a better way would be to mix the hellebore powder in water and syringe the bushes with the mixture. After erecting a house of this sort every care should be taken to give the trees the attention necessary to ensure the best results, and this is best done by attending to every detail at the proper time, never putting off until to-morrow what can be done to-day.

#### VARIETIES TO PLANT.

*Cherries.*—In the case of these, early and late varieties are wanted so as to extend their season over as long a time as possible, and for this purpose I would recommend the following varieties:—Early Lyons, fruit very large, light red and yellow, June; Early Rivers, fruit large, black, late June; May Duke, fruit large, red, late June; Frogmore Early Biggareau, fruit large, yellowish red, middle of June; Black Tartarian, fruit very large, black, June to July; Governor Wood, fruit large, light red, July; Large Black Biggareau, fruit very large, black, July; Napoleon Biggareau, fruit large, yellowish red, July to August; Late Duke, fruit medium, red, August. The Morello Cherry I would leave out of this house, as there is generally a north wall which can be used for this useful kind.

*Gooseberries.*—Late varieties are required rather than early ones, as an early supply can be had from the open quarters of the garden, and for this purpose I would recommend the following kinds:—Red: Crown Bob, Roaring Lion, Whinham's Industry, Lancashire Lad, and Marquis of Stafford; White: White Lion, Crystal, and Abraham Newland; Green: Green Myrtle, Laurel and Jolly Angler; Yellow: Gunner.

*Currants.*—Red: La Versailles, Red Dutch; White: White Dutch, and White Grape; Black: Champion and Lee's Black Prolific.

*Blackberries.*—Pride of the Market, Wilson, jun., and Best of All are most useful.

*Strawberries.*—The Red Alpine or a stock raised from selected seed should have preference. If this system of raising from seed and selecting the best varieties were more largely carried out, it might be the means of bringing this class of Strawberry into general culture, especially if crosses could be made with some of the larger varieties, but yet preserve the season of fruiting of the type.

#### CONFERENCES OF THE ROYAL HORTICULTURAL SOCIETY.—JULY 7TH AND 8TH.

PARTICULARS of the Committee meetings of the Royal Horticultural Society at Chiswick on the above dates, with some notes on the Conference exhibits, were given last week, and it was intimated that further reference would be made to the proceedings.

#### THE HARDY FLOWER CONFERENCE.

On the afternoon of the first day a conference on hardy flowers was held in the Gardens, but owing to the exceedingly inclement nature of the weather the attendance was comparatively small, and many prominent members of the hardy plant school were conspicuous by their absence. This is very much to be regretted, as some discussion on the papers that were read would have added materially to the interest of the gathering and afforded encouragement to the Council. The chair was taken by Mr. W. Marshall, and in the course of a few brief but pleasant introductory remarks he referred to the great interest and value of hardy plants, and the desirability of their extended cultivation. Some consideration they of course needed, for the bog plant could not be expected to succeed in sandy arid soil, but generally considered they were very easily grown, and if a miffy or troublesome plant was found it should not be discarded, but studied and persevered with until its culture was thoroughly mastered.

The first paper was by Mr. W. Robinson, and in the absence of the writer it was read by the Rev. W. Wilks, but owing to the fearful downpour of rain he had to resume his seat on one or two occasions, his voice being rendered quite inaudible, a fact which led to a suggestion that the subject of the paper ought to be bog gardens. The lecture discussed some results of experiments in wild gardening, with special reference to the employment of hardy flowers in meadow grass. The writer said he had planted some thousands of bulbs and roots in grass with the most satisfactory and pleasing results. One valuable flower for the purpose was the blue Apennine Anemone, which had been planted in broken groups and masses. It required no attention, springing up from year to year, and the foliage was ripe by the time the grass was cut. It was very hardy, too, and never deteriorated, while the blue Greek

Anemone appeared to be equally hardy and good. Narcissi were also extremely valuable, especially those of the Star group in variety, which thrived remarkably well. The leaves disappeared by mowing time, but spring harrowing was somewhat against them. The Tenby Daffodil was also good, and the Poet's Narciss invaluable. Other very useful flowers were Dog's Tooth Violets, Grape Hyacinths, Snowdrops, Fritillarias, Crocuses, Ornithogalums, Snowflakes, Scillas, Chionodoxas, and Tulipa sylvestris. Success depended on having bold natural groups. A considerable quantity was required, and he thought the trade should grow suitable things largely, and offer them cheaply by the thousand.

The second paper was by the well-known Isle of Wight amateur, the Rev. H. Ewbank, who appeared in person. His subject was "Some of the Summer Flowers in my Garden," and he treated it in a most sympathetic and pleasant manner. The paper was admirably written, and of much practical interest. Mr. Ewbank said he did not go in for effective arrangements, his object was to study the individual plants and make them do well. Amongst the most striking of midsummer flowers were the Eremuri, Bungei at its best being very fine, and he had robustus 12 feet high. The species flowered successionally, and he thought they were far too little grown. They were not difficult to manage, but required plenty of space in well-worked soil. Melianthus major, though too tender for some gardens, was very effective in the Isle of Wight. The pride of the summer garden were Irises. Susiana, Gatesi, paradoxa, and allied species often gave disappointment, but he managed them most successfully by withholding all vegetable and animal matter from the soil, using good loam and road grit. They were dried off in July and August, in fact quite baked; and he had found it of the greatest benefit to fix pieces of glass over them in winter. The Kämpferi group required sunshine and moisture. Amongst other plants to which special mention was given were Romneya Coulteri, Papavers, Tropæolum speciosum, Cypripedium spectabile, Lilioms, Rose species, including Fortune's Yellow and berberidifolia, and Clanthus Dampieri. He deprecated the use of early flowering Chrysanthemums, regarding them as an unwelcome intimation of the approach of the dull season.

The third and last paper, that by Miss Jekyll, whose name is known to all lovers of hardy flowers, was on "the Picturesque Use of Hardy Summer Perennial Plants," and it was read by Mr. Wilks. The subject was treated in a highly attractive and practical manner. Taking into consideration the number of plants at disposal for effective flower gardening, only a portion of which could be utilised, the writer pointed out the desirability of a careful selection of material, and recommended a reserve ground or nursery where observation could be made of other things. An essential feature of picturesque gardening was a well arranged mixed border, and hints were given on the arrangement of plants in such. It was recommended to carefully arrange plants of similar colour together, or even to inter-group such plants as Poppies and Tritomas, but Delphiniums required a contrast, such as white Lilies or Oenothera Lamarckiana. All labels should be abolished entirely. Some flowers, such as Lilies and Pæonies, were worthy of separate treatment. A special word of recommendation was given to Lilium giganteum and Romneya Coulteri. Climbing and trailing plants could be appropriately utilised, and old walls could be furnished with Wall-flowers, Pinks, and other flowers. All results should be such as appeared to have happened and not been done. Discussion on all the papers was invited, but save for a little criticism on what was styled the heretical advice by Miss Jekyll to entirely dispense with labels in flower borders there was no response. A vote of thanks to the writers of the papers was moved by Mr. G. Paul, seconded by Mr. Pearson, and carried unanimously.

#### THE CONFERENCE ON SMALL FRUITS.

This took place in the gardens on the afternoon of the second day, but the attendance was again small, and the interest far from being so lively as might have been expected. Possibly the Rose shows may have kept many away, and the weather, though finer than on the previous afternoon, was threatening, heavy thunder showers subsequently ensuing. The chair was taken by Mr. G. Bunyard, who fulfilled his duties in an admirable manner.

Strawberries formed the subject of the opening paper, Mr. Allan, Gunton Park Gardens, Norwich, describing his method of obtaining fruit from June to October in the open garden. Under ordinary cultivation the supply of fruit lasted, he said, about three weeks only, but by choosing suitable positions, and with a proper selection and utilisation of varieties, fruit could be picked daily over the whole of the period named. He advocated the making of one bed and the destruction of another every year, considering that two seasons were enough for each bed. Yearling plants produced the largest individual fruits, but two-year-old plants the heaviest crop. He recommended bastard trenching the land in winter, with heavy manuring, but it was not necessary to keep the ground fallow till August, the time for planting the Strawberries, as a crop of Carrots or Onions could be taken from it. Amongst the best varieties were La Grosse Sucrée, Vicomtesse Héricart de Thury, Six Joseph Paxton, President, British Queen, Dr. Hogg, Elton Pine, Loxford Hall Seedling, and Waterloo. He characterised the latter as a most valuable variety for planting under north walls to provide a late crop.

Gooseberries for private gardens was the subject of a paper by Mr. D. Thomson. The fact, he said, of the Gooseberry season in the north being longer than that in the south indicated the advisability of choosing as cool a situation as possible for them in the south of England. He referred to methods of propagation, giving preference to cuttings, and detailing the methods of preparing and inserting them.



He recommended a deep cool soil for the plants, well trenched and manured previous to planting, but subsequently enriched only by forking manure in, digging being a mistake. He also particularised the pruning and training, recommending cultivators to fix hoops on stakes round the bushes, and to tie the outer shoots to them in order to secure symmetrical trees. His method of protecting the fruit from birds was to insert stakes about 12 feet apart and 5 feet high round the Gooseberry quarter, fixing rails across the top, and then throwing nets over them. To destroy lichens he used caustic lime, and for the caterpillar he advised dusting the bushes with hellebore powder while damp, and syringing it off when it had done its work. He also recommended removing a few inches of surface soil and substituting good loam, by which not only were a great many larvæ removed, but nourishment was afforded to the bushes. To lengthen the supply of fruit he recommended the culture of a few bushes of Warrington on a wall, and referred to the plan of covering some bushes after the fruit was ripe for the same purpose. The late frosts this year had, he said, severely crippled the bushes.

A practical paper on Raspberries was then read by Mr. G. Wythes. He referred chiefly to garden culture, but mentioned some points in market growing. They planted in heavily manured soil, and there was no doubt that manure was not used freely enough in private gardens. In the market gardens the rows were 6 feet apart, and the plants a foot asunder; but in private gardens he recommended the rows being 12 feet asunder and low crops being grown between them. The bushes must never be dug amongst, even in top-cropping. He recommended an open situation and deep cultivation. In order to secure a long succession some should be planted in an open situation, and others on a north aspect. He considered Superlative to be one of the best varieties, and admirable for light soil. Baumforth's Seedling, Carter's Prolific, Hornet, Yellow Antwerp, Improved Northumberland Fillbasket, Semper Fidelis (for preserving), Red Antwerp, Magnum Bonum, Yellow Antwerp, Belle de Fontenay, and October Red and Yellow, were also recommended amongst others; but he thought there was still room for improvement in the varieties.

The reading of the papers was followed by some interesting remarks by the Chairman on the improvement of varieties in small fruits. With respect to Gooseberries, he thought an effort should be made to get varieties of more upright habit, and also earlier and later varieties. As a proof of what earliness meant in increased value of crop, he instanced a Kentish grower who, by having fruit ready ten to fourteen days earlier than others, had made £120 per acre of green fruit. He recommended their culture as cordons, and to the importance of manuring. The Kentish growers, he said, manured three times a year. Referring to a point of Mr. Wythes in respect to white Raspberries, he thought it desirable to get them of larger size; and as regards Currants, that longer bunches and larger berries should be striven for. He thought it was important that an endeavour should be made to get Black Currants with earlier leafage, so that the fruit might be protected from late frosts; like, for instance, the Whitesmith Gooseberry. He thought there was room for improved flavour in late varieties of Strawberries. Varieties as late as Waterloo with the British Queen flavour would be invaluable. They should have strong leafage to protect them from drought. With respect to other small fruits, Cranberries and Bilberries, which did well on boggy ground, might be noted. American Blackberries, he thought, stood condemned by public opinion, but the Cut-leaved Bramble was excellent, and he should like to see the old wild Bramble more grown. Mr. Laxton said that as regards upright Gooseberries he had found them more affected by frost in the east and midland counties than the others, but Mr. Bunyard said that it was just the opposite in Kent, and he was supported by Mr. Pearson of Chilwell. The latter thought Gooseberries were much over-pruned. He had actually seen a bush being trimmed into shape with a pair of shears. Mr. Laxton spoke to the same effect, and after other discussion the proceedings closed with a vote of thanks to the writers of the papers, moved by Mr. Crowley and seconded by Mr. Pearson. It may be added that the papers will be published in full in the Journal of the Royal Horticultural Society.

#### FRUIT COMMITTEE.

A meeting of the Fruit Committee took place after the Conference to inspect some fresh arrivals in the way of fruit. Mr. Leach, Albury Park Gardens, Guildford, received a vote of thanks for two fine dishes of Grosse Mignonne Peach. A certificate of merit was awarded to E. Amies, Esq., Ashford Road, Maidstone, for Laxton's Latest of All Strawberry, a large conical fruit of fine appearance, but not quite ripe. Certificates of merit were awarded to the following Strawberries in the collection of Messrs. Paul & Sons, the Old Nurseries, Cheshunt, for varietal excellence: Vicomtesse Héricart de Thury, Sir Joseph Paxton, Pauline, Auguste Nicaise, President, and King of the Earlies. Similar awards were made to the following in Messrs. Bunyard's collection: Oxonian, Countess, Lucas, Latest of All, Auguste Nicaise, British Queen, Dr. Hogg, and Elton Pine. Silver medals were awarded to each collection in addition. Vicomtesse Héricart de Thury and Sir Joseph Paxton, in Mr. Watkins's collection, also received certificates of merit. Mr. Allan, Gunton Park Gardens, Norwich, exhibited six boxes of Strawberries, comprising one each of Sir Joseph Paxton, President, and The Countess, and three seedlings. They were splendid examples, and a certificate of merit was awarded to each. Seedling No. 2 was a very large, wedge-shaped fruit, deep red in colour, and with a rich and luscious appearance. No. 3 was a medium-sized bright red fruit, with a fine Hautbois flavour. No. 4 was a large conical fruit as deep in colour

as Waterloo. Mr. T. Laxton also had some fine fruit, and certificates of merit were awarded to Scarlet Queen, illustrated on page 22 last week; and White Knight, a large round very pale fruit, though with more colour than Bieton Pine. The Mayfarth patent fruit evaporator, which has been illustrated in the *Journal of Horticulture*, was tried before the Committee, and approved of by them.



EVENTS OF THE WEEK.—To-day (Thursday, July 16th) is a busy one for exhibitors. The National Rose Society's Provincial Show takes place at Hereford, and the Midland section of the National Pink Society hold their Exhibition in connection with the Floral Fête at Wolverhampton. There are also Shows at Trentham, Helensburgh, Highgate, and Bedford. Ulverston Rose Show is fixed for the 17th, and on the 18th there will be an Exhibition of Roses at Old Trafford, Manchester. The National Carnation and Picotee Society (southern section) hold their annual Show at the Drill Hall, James Street, Westminster, in connection with Committee meetings of the Royal Horticultural Society on the 21st, and Rose Shows are fixed for the same date at Christleton and Tibshelf.

— THE WEATHER.—For some days past agreeable summer weather has been enjoyed in the Metropolitan district, and been particularly welcome to Strawberry growers and haymakers.

— THE EMPEROR OF GERMANY AND BARON SCHRÖDER.—We are gratified to learn that among the honours bestowed upon distinguished Germans resident in England by the Emperor of Germany, in commemoration of his visit, Baron Schröder has received the decoration of the Red Eagle second class with Star. All horticulturists will be delighted at this announcement.

— UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The quarterly meeting of this Society was held on Monday evening last at the Caledonian Hotel, Mr. E. Berry in the chair. The principal business was the election of new members, no fewer than twelve being elected and one other nominated. The sick list has been rather heavy, but at the present date there are only two members on the fund. It may not be generally known to new members that a Convalescent Fund was established last year for the purpose of assisting members to enjoy a change of air after illness. Ten shillings per week would be allowed for three weeks. The subscriptions are not less than 1s. per year, payable in July. The fund is voluntary.

— PRESTON AND FULWOOD HORTICULTURAL SOCIETY.—The annual meeting of this Society was held on Saturday evening last, Mr. S. H. Stott in the chair. The report read by the Secretary showed that the spring Exhibition had been successful, and that the finances were in a sound state, the balance in favour of the Society exceeding £50.

— CEANOTHUS VEITCHI.—Mr. W. Drover, Fareham, sends us a photograph of this Ceanothus as it was growing on a south wall in the garden of W. Pocock, Esq., Wellington House, Fareham. It was planted three years ago, and has made growth 14 feet high, covering a space 13 feet wide. It is a remarkably fine specimen, covered with myriads of flowers, and Mr. Pocock has good reason to be satisfied with the progress his plant has made.

— THE WEATHER DURING THE PAST MONTH has been of a very genial character, with occasional showers, although the early part of the month was cold, and for some days the sun did not present itself; but since then the weather has been all one could desire. On the 25th we had a severe thunderstorm, when 0.51 of rainfall was registered in thirty-five minutes, the heaviest rain this season. Rain has fallen upon ten days during the past month, maximum in any twenty-four hours being 0.51 on the 25th; minimum in any twenty-four hours being 0.01 on the 24th. Total for the month 1.40, against 2.18 of 1890. In spite of the cold spring and late frosts Strawberries and bush fruits, Peaches and Plums, are plentiful, Pears a medium crop. Apples and Apricots suffer the most, but even Apples of the Codlin type there will be a fair crop.—E. WALLIS, *The Gardens, Hamels Park, Buntingford, Herts.*



— **ANTWERP EXHIBITION.**—An international horticultural exhibition devoted to Californian, Chinese, Japanese, Australian, Cape of Good Hope, and South African plants will be held at Antwerp in conjunction with the international exhibition, which is to take place from the 9th of August to the 23rd of September. Entries, for which there is no charge, are to be sent in by the 20th of July to the President of the Committee, Lierre-lez-Anvers, Belgium, and the cost of transit on the Belgian railways will be remitted to exhibitors. There are 165 classes in all. The President of the executive Committee is M. Charles de Bosschere, and the Secretary M. Charles Van Geert, jun.

— **WARE HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—A meeting was held by this Society on the 7th inst., Mr. W. H. Smith presiding, and there was a good attendance of members. A very interesting and instructive paper was read by Mr. D. Phillips, West Mill Rectory, on "Vegetable Structure and Botanical Chemistry Useful to Gardeners." Questions were put by several members, to which Mr. Phillips replied in an able manner. A collection of Dipladenias was shown by Mr. R. Smith; a fine Melon, Sutton's Triumph, by Mr. Dover, High Leigh, who also showed blooms of Souvenir de Malmaison Carnations. A vote of thanks was accorded Mr. Phillips for his paper, and a similar compliment to the Chairman brought the meeting to a close.

— **NEW SWEET PEAS.**—Mr. James Udale sends us flowers of three charming varieties of Sweet Peas raised by Mr. Eckford. They were as follows:—Apple Blossom, with bright rose standard, white wings and keel; Cardinal, dark red standard, crimson wings and whitish keel; and Orange Prince, orange standard, rosy crimson wings, and whitish keel. Bright, delicate, and fragrant, these flowers are most useful for cutting purposes, and we can understand that our correspondent has found them serviceable. They were sown and flowered in small pots under glass.

— **DELPHINIUM NUDICAULE** is well adapted for growing on the rockery and for flowering during June in pots, where brightly coloured flowers are appreciated. In pots 4 inches in diameter plants can be grown with several spikes of bloom of a dazzling red. Cold frame treatment at all times, with the pots plunged in ashes, is the best method of culture. A somewhat sandy soil is most suitable for free growth, and abundance of water when showing its flower spikes.

— **GENTIANA ACAULIS** is without a doubt a most striking plant when in flower on a rockery, and its intensely blue flowers compensate for all the trouble experienced in growing the plant successfully. In some gardens it flourishes little, while in others it will scarcely exist. Some persons say it succeeds best in the shade, but my experience is the reverse of that, for it is growing in the most sunny spot on the rockery here, and a clump 1 foot square has had forty-five expanded blooms. The soil is mainly loam, lime rubble and pieces of sandstone being mixed with it. After flowering, some Laurel branches are placed over the clump to afford shade during the hottest part of the day. While growth is being made abundance of water is provided, both when it is growing and also when the flower spikes are developing. Except at the time named shade is not provided, neither does it appear necessary.—E. M., *Swanmore Gardens*.

— **GRAPES AT SWANMORE.**—An "Old Grape Grower" who has lately visited Mr. Myers' well appointed and admirably managed gardens at Swanmore Park, writes:—"Swanmore has long been famed for its Chrysanthemums, and the Grapes grown in three fine vineries have always been above the average, but this year they are better than ever, on Vines that have been planted twelve years. Gros Guillaume and White Tokay are represented by enormous bunches, while Mrs. Pince, Madresfield Court, Muscat of Alexandria, Black Alicante, and Black Hamburgh are, both as respects uniformity of crop and size of bunch and berry, such as any man may be proud of growing. If they finish well, as they promise, Mr. Molyneux will be able to stage Grapes worthy of a place at the best exhibitions, though he did not express any desire to do so. Whether he shows the fruit or not it would be a little difficult to find three more creditable houses of Grapes than may be seen at Swanmore at the present time. The pipes for heating are arranged at 2 or 3 feet intervals from the front of the houses to the path along the back, and the plan undoubtedly answers well in these vineries. The Vines are the strongest and the Grapes the best along the front of the houses, contrary to what some persons might imagine under the circumstances. The Whitsuntide frost did much damage at Swanmore, and appears to have nearly killed about 10,000 Larches from 5 to over 6 feet high in a young plantation on the estate. The case will perhaps be referred to again as it is somewhat interesting."

— **THE REV. H. D'OMBRAIN** sends the following:—It has been arranged to have an excursion, to which ladies are invited, on Wednesday, July 29th, of which the following is the programme. Members and their friends will assemble at the London Bridge terminus (first-class waiting room) of the L.B. & S.C. Railway at 9.15 A.M., thence proceed in special carriage to Three Bridges, where brakes will meet them. A short visit will be paid to Messrs. Cheal & Sons' Nursery at Lowfield, then drive to North Park (Mrs. Montefiore's), from thence through Tilgate Forest to Handcross Park (Mr. Warren's), returning through St. Leonard's Forest to Crawley, dining at the George Hotel at 7.0, returning to London 9.22, reaching London Bridge at 10.33. The price of the ticket, railway fare, carriages, lunch and dinner (red wine) will be 18s. 6d. Those wishing to join the party should kindly let me know, to my private address, Westwell Vicarage, Ashford, Kent, by July 11th.

— **NORTHAMPTONSHIRE HORTICULTURAL SOCIETY.**—As announced in our advertising columns, the summer Show of this Society will open in Dalapre Park, and the substantial prizes offered for plants, groups, and fruit ought to induce good competition and a satisfactory exhibition.

— **GARDENING APPOINTMENTS.**—Mr. M. Sullivan, gardener to the late D. B. Chapman, Esq., Downshire House, Roehampton, has been appointed gardener to — Stern, Esq., Fann Court, Chertsey, Surrey. Mr. Walter Jinks, recently foreman at Downshire House, has been appointed gardener to W. M. Grant, Esq., Fairlawn, Cobham, Surrey. Mr. J. Bailey, for the past five years gardener to Sir John Dorington, Bart., M.P., Lypiatt Park, Stroud, resigns the charge of those gardens on August 8th, having taken over a florist business on his own account at Brighton.

— **LAXTON'S NOBLE STRAWBERRY.**—I was rather surprised to read the glowing account of Noble on page 6 by "W. S., *Frome*." I planted rather largely of Noble last year, a good breadth on a south border, and the plants have given a very heavy crop of noble fruit, but they were so woolly and insipid that my employer would not have them in for any purpose. I gave the men leave to have as many as they liked, but the fruits still lie rotting on the plants. They were much better last year, and I shall plant a few in hope of a more favourable season another year. Last year they realised 1s. per lb., when they first came in; but this year it is very difficult to sell them in the market.—ALMA.

— **ERICA CODONODES** has flowered profusely, and is certainly deserving of extended cultivation where hardy Heaths are appreciated and succeed. Not only does it remain a long time in flower, but it is one of the few plants which flower twice a year, in spring and autumn. We have it growing close to water, backed up by Rhododendrons, the deep green foliage of which improves the appearance of the Heath, making an agreeable contrast with the nearly white bloom and the green leaves. Some plants show distinct effects of the severity of the winter, although not more than 8 feet apart. One escaped wholly, although its roots are close to the water, and flowered well, while others on a dry mound have been much injured.

— **A GLOXINIA SHOW.**—During recent years Messrs. John Peed and Sons have held an annual competitive and non-competitive exhibition of Gloxinias at their Roupell Park Nurseries, Tulse Hill, S.W., and that for the present year was open to the public on Wednesday and Thursday, July 8th and 9th. The plants occupied three divisions of a lean-to house 150 feet long, and being arranged with abundance of fresh green Adiantums a beautiful effect was produced. The Gloxinias were mostly healthy floriferous young plants in small pots, but there were also some large specimens in grand condition. The strain is a well selected one, and the most distinctly marked varieties have been named for increase, the flowers large and well formed, the colours varied from the richest shades to pure white, and the habit excellent. Most remarkable of the novelties were "Loveliest Among the Lovely," brilliant rosy crimson edged with white, very compact in habit, and free flowering. Shirley Hibberd, a rich violet purple, very handsome. Princess Louise von Anhalt, white, densely dotted with purple. John Peed, bright crimson, with a broad white margin, most effective and distinct. The majority of the flowers require no supports, but for a few varieties with larger flowers on larger stalks a neat wire is employed, which has the point turned into a horizontal ring, upon which is slipped a small indiarubber tube to surround the flower stalk and protect it from injury. The prizes offered by the firm brought good competition and capital plants.



— LEMOINE'S HARDY HYBRID GLADIOLI.—Mr. W. E. Gumbleton of Belgrove, Queenstown, asks to be allowed "to enter a most emphatic protest against the accuracy of the statement of 'D., Deal,' page 491, to this effect, that 'in beauty these hybrids cannot touch the hybrids of the gandavensis section.'" I have been a grower of the latter—at least several hundred varieties—for twenty years, and have also grown the supposed "hardy" hybrids raised by Lemoine. Their great merit is supposed to be that they are "hardy," but my experience is that they are not, and that when the young growths come through the ground in May or later they are just as liable to be cut back as any of Souchet's, Kelway's, Burrell's or Campbell's. These latter will remain in this climate quite safe in the ground any ordinary winter, say 4 inches deep in friable soil. But what is gained by that? I find it more convenient and more desirable to lift my limited stock out of the ground every season, and remake the beds or lines, while the corms fully mature and ripen indoors. Now as to the "beauty," I am thoroughly in accord with "D., Deal," and as to size (an item in the consideration), the hybrids of Lemoine, even the newer varieties, not generally known except to a favoured few, are, I venture to say, nowhere. If this is contested there is an easy test accessible to Mr. W. E. Gumbleton or any other grower. Let a box of say twenty varieties, or more if possible, be shown at one of the exhibitions of the Royal Horticultural Society against a corresponding number of the hybrids of gandavensis, and the public and members can then judge between "D., Deal," and your correspondent. I believe that "D., Deal," will himself freely dispose of any opponent with his own hybrids of gandavensis. There is plenty of room for growers who prefer those curiously incurved and oddly tinted flowers to those immense blooms of gandavensis with thirty on a spike that you could run your hand into, as richly marked as a Cattleya.—W. J. MURPHY, *Clonmel*.

— EARLHAM HALL GARDENS, NORWICH.—A visit to the old gardens attached to the residence of the Rev. W. N. Ridley is always well repaid, abounding as they do in old and fine timber. Particularly noticeable amongst the Orchids, in the culture of which the courteous head gardener, Mr. Bartlett, excels, were *Sobralia xantholeuca*, an immense plant with three dozen stems bearing fine blooms; *Thunia Marshalliana*, a handsome specimen; *Miltonia vexillaria*, a truly magnificent example, outvying anything I have seen in this respect, in a 7 inch pot, bearing thirteen huge spikes, and had been grown from a single bulb. A few varieties of *Odontoglossum Alexandræ* were conspicuous, and deservedly held in high esteem. The *Freesias* (both *refracta alba* and *Leichtlini*) too, are grown with great success, attributed to never thoroughly drying them off. Recourse to manufactured Mushroom spawn is never required here, as from an old manure bank formerly made to raise the heat in an old vinery plenty are gathered from time to time. Plants of *Vicomtesse Hericart de Thury* Strawberries are worthy of inspection in frames; they were lifted and planted in March last on an old bed after *Asparagus*. This variety, Sir Jos. Paxton, President, and Lord Napier, are successfully grown. In the Peach houses Hale's Early, Stirling Castle, Diamond, Royal George, *Violette Hâtive*, Barrington, Early Alfred, and Late Admirable were exceedingly well set. Fine Cauliflowers were being cut three weeks ago from seed sown the 24th of January. A fine trained tree of *Oullins Golden Gage Plum* promised a heavy crop, indeed it is worthy of note that this variety always bears when others fail. A wonderful head of bloom was to be seen on an eighteen-year-old Quince, which bears freely every year, but whose trunk was nothing but a shell. Indeed the whole of this charming place, both outside and in, is brimful of interest.—ALBERT F. UPSTONE.

### MR. ROBERT FENN AT HOME.

"COME when you can and stay as long as you like; you will find a welcome and a change of food—cabbage and bacon one day, bacon and cabbage the next; with potatoes and buttermilk always, also wine, jellies, and jams, all and everything home raised, grown, and made. So if that style suits you come to Sulhamstead, and don't go back very soon." Such is the substance of an invitation received a long time ago and often since repeated from the youthful veteran Robert Fenn, Potato maker, wine brewer, and knight of the pen. On the second day of July, 1891, I went, and so far as can be remembered was only about thirteen years behind time.

The address, "Sulhamstead, near Reading," naturally suggested the capital of Berks, famous for its clean wide streets, seeds, and biscuits, as the base of operations, and Messrs. Sutton & Sons

as the inquiry office for the best way of reaching the cottage farm of which I was in quest. They gave good guidance, and also an invitation to their trial grounds, at which a pleasant hour was spent, and a few vegetables and flowers noted, as mentioned in another column. Mr. Fenn's home was, I found, nearly an hour's drive from Reading, though there is a railway station—Theale—within a mile or two of his village. The country traversed is beautifully wooded, the Elms being particularly fine, showing that the soil is good, but much of the land is not well farmed. We passed the Cob-nut gardens at Calcot about which so much was heard some years ago, then turned from the main road down to and along a narrow tree-lined leafy lane skirting the estate of Major Thoyt's. It is a "truly rural" lane, which Mr. Fenn is pleased to call his coach road, and we eventually reached the Cottage Farm, the cosy and commodious Rose, Clematis, Honeysuckle, Fig, and Vine-clad home of the veteran who has made his mark in the domain of gardening, and will leave the world (may it be long first) the richer for his work and his teachings through the Press. His first communication appeared in the *Cottage Gardener* in 1851, his last in March, 1891, covering a period of forty years. But he has not finished, for did he not write in the month just mentioned, and on page 214 of the last volume of the *Journal of Horticulture*, "The cultivation of Potatoes must go on, and if you will permit me to do so I will still strive in these pages to assist to shape our course, and make it better, surer, and easier to live?"

He has told us in his sprightly narrative "As of a Dream," that was so widely appreciated, what he had done—of his disappointments and rewards, his predatory difficulties and home happiness—that the "reality" is looked for; and a description of how he, with "Eliza Temple's" aid, made the wines, jams, and jellies, and how they worked together to make life so good, easy, and happy could scarcely fail to meet with an unanimity of acceptance. Though the veteran has told us it is fifty-five years since he planted his first orchard, he is as active, physically and mentally, as if in his teens, and there is yet much to come, if he wills it, from his well-stored mind. Mr. Fenn has now and then half suggested that he has lived so long as to be forgotten. That is not so by those who are familiar with his career. He has himself outlived many of his once old friends, and a new generation has succeeded who knew him not in the earlier years of his experiments and their records through the press. He is not to be forgotten, but his features, as they are now, ripened with time and brightened by "a mind at ease" after a well-spent life, are transmitted to posterity through a medium with which he has been so long and so pleasantly connected.

What has he done? He pointed the way to the revolution and evolution of the Potato, and the world is more indebted to him than to any man living for the great improvements that have been effected in the "noble tuber." He was not the immediate raiser of several of the most serviceable varieties, but he was the Columbus who led the way and others followed to further discoveries. It was not, for instance, by the work of his hands that *Magnum Bonum* was produced, yet if it had not been for him the famous variety would probably never have appeared. His neighbour, the late Mr. Clarke, was busy in crossing the American sorts, but he was advised by Mr. Fenn to let them alone and work for quality with vigour by crossing Fox's Seedling with Patterson's Victoria, and so came *Magnum Bonum*. Mr. Fenn's aim has been for still higher quality, and in the varieties he has raised, some in commerce, and others to follow, he has accomplished his object, for they are remarkable for culinary excellence.

But what about his home? On arrival, rosy faced "Alice," her mother's cheerful helper, bounced in to fetch out the "Eliza Temple," as was, the Royal prize girl of thirty-three years ago, and we received a hearty greeting. Mrs. Fenn is a model gardener's and farmer's wife, and has, without doubt, been a real practical helper of her experimenting husband over many long years. Those who knew them in the great Potato raising period tell how she urged him on. It was dig, dig, dig, root after root, row after row, and nothing good turned up. "We must give it up, my girl, it's weary work." "No," was the encouraging response, "we must never give up; keep digging away, Bob, we shall come at 'em yet." "Come at 'em" they did, just as many another reward has been found by "digging away." Bravo, Mrs. Fenn! The late Prince Consort's words, on handing you the medal for long and good service in a first place, were prophetic—"As the first prize girl educated at the Queen's School you ought to be distinguished," and so it came to pass, but distinguished in a way that no prince could have anticipated—namely, in helping "Bob" to become famous as a raiser of seedling Potatoes.

"But where is the young man?" was our inquiry on arrival. "Oh, dancing about in the hay field." There sure enough he was, whirling his fork and hat, and no doubt talking to us two fields off;



at least as he came skipping over fence and ditch the wind wafted faint sounds that increased as the white man approached, and gave us a jovial welcome. It was a hot day, and he was in sensible summer dress—white as his beard from head to foot—and he soon had us in the garden. Splendidly cropped it was with fruit

cottage wall, wandering in wild festoons along the top of the roof for growing Grapes for dessert and wine; but for the latter purpose the outside crops of this and the Esperione Vine ripen sufficiently.

"Well, now," remarked the host, "you have kept your word

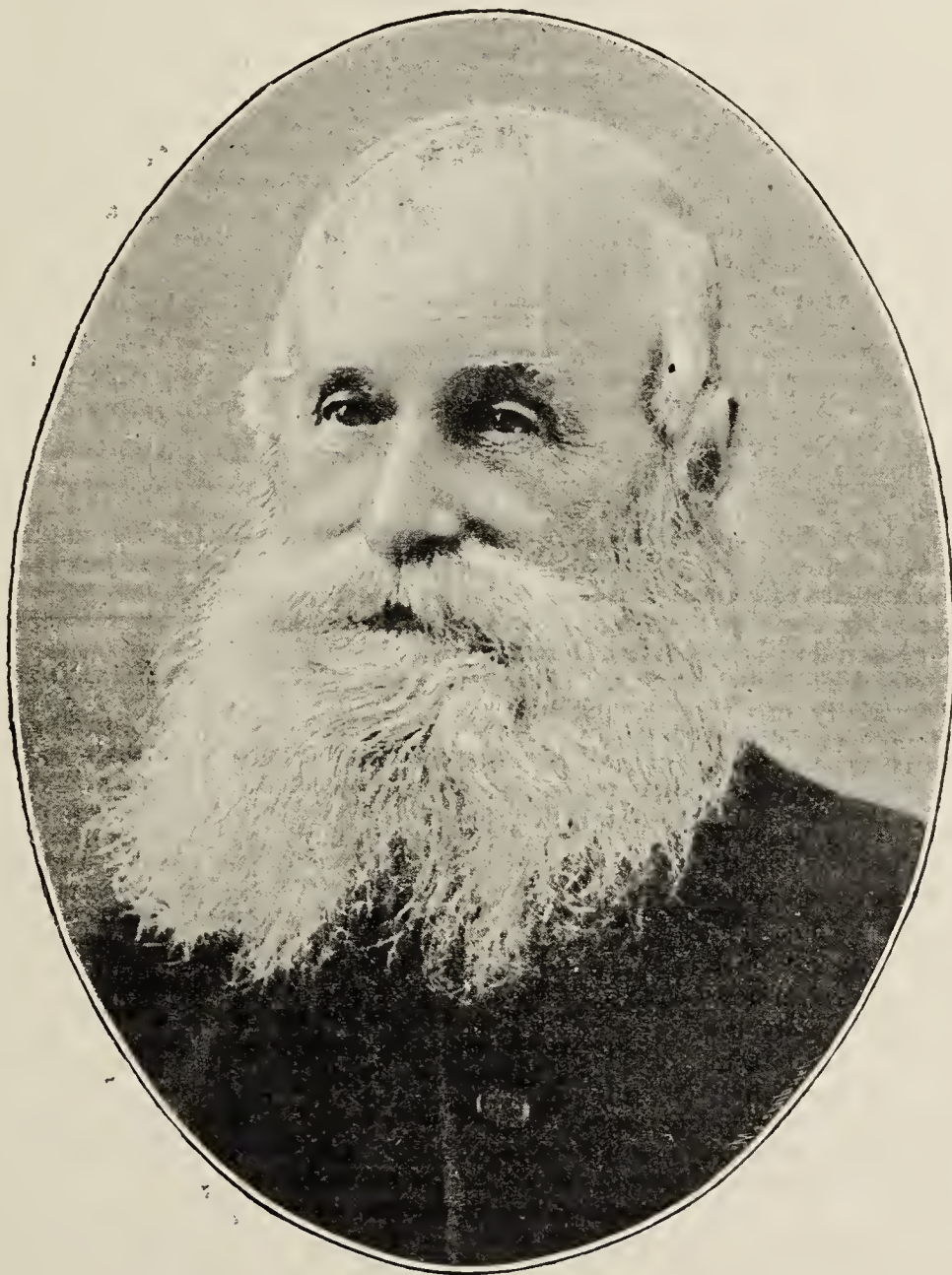


FIG. 8.—MR. ROBERT FENN.

and vegetables, as productive an acre or so as one could wish to see; Gooseberries, Currants, and Strawberries laden, the fruit of the latter kept clean with a couple of rough haybands laid along the rows, a capital plan quickly put into operation, and the bands as quickly removed. There, too, is the old lean-to greenhouse, with the trough along the front in which he sowed his Potato seed, and the Muscadine Vine, brought in from the

and arrived at last, and I have kept mine. Come in for the Cabbage, bacon, Potatoes and wine, all grown, cured, brewed and cooked on the premises." A bountiful provision truly, and a treat to a tired townsman. The new wine is drawn from the cask, poured in tumblers and used as a light cool beverage, and we had a bottle of the delicious '52 vintage for dessert, or thirty-nine years old. The Potatoes were Ringleader, new tubers in one dish, old or last



year's crop in the other. "Now tell me which sample is the best, old or new?" was the invitation. No one at the table could decide the point, and "both good alike, first rate," was the general verdict. "One of the earliest Potatoes, one of the latest, and one of the best," was the response of the raiser. "The Reading people are sending it out, and who the 'Reading people' are all the world knows." The Cabbage was also a home-raised variety, no other having stood the winter, medium in size, early and delicious; the bacon was from an animal quite different in colour from its master, who is only a white settler, the pig a black native. Thus ends the dinner.

We have next to see the orchards, memorial trees, and farm. Mr. Fenn bought the property, I think fifteen or sixteen acres, about as many years ago. It is beautifully situated, with grand views all around and gentlemen's seats in the distance. His new orchard is just coming into useful bearing, the older having been renovated, and the whole well fed with sewage conducted by gravitation from the farmstead on higher ground. The liquid is conducted in trenches dug in the grass to where the support is required, and there is no mistaking the tracks of the fertiliser. It is here that Mr. Fenn found what he calls his Pay-the-Rent Apple, because he calculates that the produce of the tree has paid what would be a fair rent for the orchard for several years. It is a splendid tree laden with fruit, and young trees of the variety are growing and bearing better than any others in his new cultivated orchard. He tells how he sent samples to the R.H.S. Fruit Committee, but the savants discovered some spots in them, and that was enough. However, he says, if there had been no spots the fruit would no doubt have been "passed" as lacking in size and colour; but all the same it is first favourite at Sulhamstead, because it is good for cooking, eating, and paying the rent. Golden Spire, Lane's Prince Albert, Wellington, and Bramley's Seedling find favour in the collection.

Along the bank of the ditch that divides two fields a row of trees of the Wellington (Dumelow's Seedling) ought to be in their prime, but they are cankering seriously—at least, all those which are exposed, and were pitted with a driving storm of hail are, the trees at the other end of the row and sheltered being healthy, an object lesson for Mr. Hiam, who still appears to believe that insects are the originators of canker in trees. Mr. Fenn is inserting grafts in the injured trees, the best thing he can do; but he should add more of hardy strong-growing sorts, like his favourite. The Wellington is a short-lived tree, especially in exposed positions. Mr. Gladstone, Cox's Orange Pippin, and Wheeler's Russet are his approved dessert sorts. The little Early Doyenné d'Été Pear is much liked; but the birds ate the buds, so he shifted the tree near the kitchen door, where they feed the cats, and it now bears fruit for the family, not of cats, but Fenn's.

Most of the farm is under grass, the crops of hay and herbage being splendid, and the cows look as happy as their owners. The fertility of the land is sustained and increased mainly with dressings of burnt refuse and clay. A good body of fire is made, then clay dug, carted, scorched, crushed, sifted, and used. This has more than doubled the produce, as could be seen by part of the field to which the dressing had not been applied. Pots, pans, and all sorts of hard refuse are buried in the trench from which the clay is dug, and the head digger supposes that when they are found in some far remote future learned archaeologists will rejoice over the discovery of an ancient Roman station. Victorian coins are kept out of the trench.

Mr. and Mrs. Fenn show what can be done with a small farm, including a good garden and orchard. If all the land in the kingdom were as well managed as this picturesque and productive homestead the wealth of the nation would at a low estimate be trebled. The memorial trees referred to are the gifts of friends and called by their names, and are thus an interesting feature of the cottage farm. Mr. Fenn is also a sort of village factotum—guardian, road surveyor, churchwarden, tax gatherer, and I know not what besides, nor does it matter; it is sufficient to see him happy in his embowered home, trusted and respected by the community. The visit was too short but very enjoyable, and on arriving at Reading Cabbages and flowers, eggs and bacon were espied snugly packed among rugs and baggage in the box of the trap. Oh, you Fennians!—AN OLD PUPIL.

## FLOWERS FOR CUTTING.

### DAHLIAS.

THESE are quite a host in themselves, the several sections into which they are divided providing a great range of variation in form and colouring. The best for cut work are doubtless to be found with in the Cactus section. Juarezi is probably still the

best, taking colour and form into consideration. It is occasionally condemned on account of its tendency to flower late when propagated from cuttings. This tendency is so very much overcome by the simple method of planting the old tubers each with one or two started growths that it is surprising this method is not more generally employed than it appears to be.

Reverting to sorts which should be grown Mr. Tait for a long time held the first place as a good white; but Henry Patrick is so great an improvement that the above and other white kinds can be very well dispensed with. Henry Patrick is of neat spreading habit, not so free flowering as to necessitate the thinning of the buds (white, very pure). William Pearce is a deep yellow shade, the shape of flower very good. These are a capital trio. Of other shades, Asia, Panthea, General Gordon, and Miss Jekyll are very good. Mrs. Hawkins may also be grown, but the place of this sort has now been filled with better. The Show and Fancy varieties are useful where large vases require constant refilling. Miss Browning is one of the best, Mrs. Gladstone a beautiful flower. Spitfire, Julia Wyatt, and Charles Leicester are a few of the best kinds for cutting purposes. Pompons are in much request, but these I do not favour so much. White Aster is an old and good sort. Of single varieties a few sorts only are grown, the great bulk being cultivated from seed. Chilwell Beauty is so distinct and attractive, and withal so well adapted for vase furnishing, that of this at least a supply should be annually grown. Paragon is also good.

The value of Dahlias as decorative flowers has been greatly enhanced during the past dozen years. The Cactus forms are the most valuable, and are alike useful for furnishing medium vases, specimen glasses, dinner-table decorations, church and altar decorations, and the white varieties for wreaths. Single forms are most useful for furnishing medium-sized vases or mixing with other flowers. The Show sorts, as already pointed out, are capital for large vases. Long stalks should invariably be cut with these, along with a fair proportion of foliage and buds in various stages of development. They associate very well with good Gladiolus, Hyacinthus candicans, the taller Michaelmas Daisies, and hardy Chrysanthemums. Iris Pseud-acorus and the common Rush are valuable as good foliage adjuncts.—B.

## THE ECONOMIC PLANTS OF AUSTRALIA.

(Continued from page 370, last Vol.)

WE now turn to the timbers, by far the most important of Australian economic plants in number, variety, and actual value.

Our timbers are principally hardwoods, which chiefly, though by no means exclusively, belong to the Natural Order Myrtaceæ. Most of these belong to the genus *Eucalyptus*, and are generally known as "Gum Trees," with sub-divisions based on the texture or colour of the bark, wood, and so on, such as Ironbarks, Stringybarks, Box, White Gum, Red Gum, &c. The Ironbarks, of which there are some half dozen, yield timber proverbial for durability and strength, and do not present important differences; the Stringybarks, which are equally numerous, have very fissile timbers, chiefly utilised for palings. Having noticed these two groups we will speak of a few other timbers a trifle more in detail. The West Australian Jarrah (*Eucalyptus marginata*) is a timber of great strength and power of resistance to insect pests and marine borers. It is one of the best known of all timbers of this class, and a most valuable all-round wood. From the same colony we have two other valuable timbers—viz., the Karri (*E. diversicolor*) and the Tuart (*E. gomphocephala*), both obtainable of very large size, durable, strong, and suitable for engineering and architectural works where great strength is required. *E. botryoides*, *E. robusta*, and *E. resinifera* are called Mahoganies of one sort or another, owing to their fancied resemblance to the West Indian wood. They are dark coloured, strong, very durable timbers. The Spotted Gum (*E. maculata*) is a pale coloured timber, not so durable for outside work, but useful for wheelwrights' work and many other purposes. *E. microcorys* is a strong, durable, useful wood, known as Tallow-wood, on account of its greasy nature; *E. tereticornis* and *E. rostrata*, Red Gum, are closely allied timbers of unlocked grain, most durable, very strong, and also excellent fuel woods. *E. saligna*, the Sydney Blue Gum, is a very free working timber, much valued on this account, and also because of its durability. The Mountain Ash, or rather one of them (*E. Sieberiana*), yields a fissile and particularly tough wood, which is used for wheelwrights' work, and generally as a substitute for American Ash. Another Mountain Ash, the Gippsland and Southern New South Wales one (*E. amygdalina*), is very fissile and also an excellent stave wood. These notes on our *Eucalyptus* timbers, brief as they are, must include the names of the excellent timbers—Box (*E. hemiphloia*), Blue Gum (*E. globulus*), and Bloodwood (*E. corymbosa*), resistant to white ant, while there are a large number of other *Eucalypts* of great merit.

Besides the *Eucalypts*, a number of Myrtaceous trees yield hard wood timbers of more or less excellence. Perhaps the first place may be given to the Turpentine Tree (*Syncarpia laurifolia*), a fine timber tree, yielding a very durable timber for posts, rails, sleepers, &c., and one of the best for withstanding marine borers.



The colonies can boast but few timbers belonging to the pine or deal class. The colonial Pine (*Araucaria Cunninghamii*) is a useful ordinary soft wood timber, but is now getting scarce, and we are more than ever dependent on America and Europe for a supply of soft woods. The Huon Pine of Tasmania (*Dacrydium Franklini*), is also getting scarce, and strict conservation has been necessary to prevent the tree being exterminated in accessible localities. Some of this timber is beautifully figured and commands a high price. It would appear that the coniferous trees of Australia are more remarkable for their yield of ornamental timber than similar trees of northern latitudes. The Cypress Pines (*Frenela*) belong also to the *Coniferae*, and while they have been alluded to under ornamental timbers, they are chiefly used for ordinary purposes in the districts in which they are found. Thus they are used for lining boards, and have the important recommendation of withstanding the white ant perhaps better than any other Australian timber.

Of ornamental timbers we have no lack, amongst which may be mentioned the Tulip Wood (*Harpullia pendula*), with its gorgeous shades of yellow and black; the various Cypress Pines (*Frenela* or *Callitris*), not so gorgeous, but still highly ornamental. The Cedar tribe, including the Red Cedar (*Cedrela australis*), and Rosewood (*Dysoxylon Fraserianum*), often highly ornamental, the former particularly so; the Bean Tree (*Castanospermum australe*), a rich brown wood, reminding one of Walnut, and very easy to work; and one of the Silky Oaks (*Stenocarpus salignus*), yielding a remarkably handsome dark-coloured wood, with blotchy markings. Speaking of ornamental timbers, it is often a fact that the most highly ornamental wood is left in the ground, forming the rootstock or gnarled stump. The Musk Tree (*Aster argophyllus*), found in several of the colonies, yields a neat but not remarkable timber, but the rootstock is most beautiful, and well worthy of being cut into veniers. There is no doubt that it would be desirable for the rootstocks of other of our native trees to be critically examined, as good ornamental timbers always command a high price.

The Blackwood (*Acacia melanoxylon*) is one of the most valuable of Australian timbers, and it is put to an infinity of uses. It is strong and tough, and at the same time ornamental.

Then comes the Cedar (*Cedrela australis*), perhaps the most valuable of all our timbers. Every Australian knows the Cedar, but for residents out of this continent it may be well to mention that the wood strongly resembles mahogany, to which, in fact, it is closely related. It is very facile to work, is very durable, and frequently shows a handsome figure. Like most of our good timbers, it has been so much appreciated that it is now getting scarce, and it is a serious fact to ponder over that, at the present rate of destruction, there will not be, at the close of this century, a single Cedar tree of workable size in New South Wales, unless a rigid system of conservation is put in force without delay. In regard to some of our best timbers—Cedar, Pine, Ironbark, &c.—we have been acting the spendthrift like our fathers before us, but Australia is making such rapid strides in population, and consequently in timber consumption, that we shall soon have to cry halt.

Our chief so-called Beech is *Gmelina Leichhardtii*. It yields a plain tough timber, whose chief recommendation in these lands where great variations in temperature are frequent is its unalterability. In Victoria and Tasmania we have a true Beech (*Fagus Cunninghamii*), which attains enormous size and furnishes a very useful timber, which also is frequently ornamental. Then we have the Coachwood (*Ceratopetalum apetalum*), a most useful tough timber used by coachbuilders when thoroughly seasoned; a number of *Flindersias* and *Elaeocarpus* yielding ash-like timber, hard and tough. We must not omit the Myall (*Acacia pendula*), which yields a hard ornamental wood, whose odour reminds one of Violets, but the great majority of *Acacias* are not taken into consideration by the timber merchant, either because they are so small or because the timber is affected by borers, and has, at the same time, nothing particular to recommend it.

For timbers with miscellaneous uses we may point to the Stave-woods, amongst which may be mentioned the Mountain Ash and Blackwood, already alluded to, the Red Ash (*Alphitonia excelsa*), the Stavewood (*Tarrietia*), a Silky Oak (*Stenocarpus*), and the Silky Oak *par excellence* (*Grevillea robusta*), a tree which promises to come into increased prominence, owing to the apparent suitability of its timber for wine casks. The Casuarinas, or Oaks, yield fissile timber, often dark coloured and frequently highly ornamental. These are also some of our best fuel woods.

A large number of our Australian timbers have been tested with the view to their utilisation for wood engraving, but not with much success hitherto. Some of the Cheesewoods (*Pittosporum*) promise well, as also do a native Pomegranate (*Capparis*); the Native Cherry (*Exocarpus cupressiformis*) is useful also for wood screws. We also possess a number of timbers excellent for carving.—J. H. MAIDEN, F.L.S., F.C.S., &c., Curator of the Technological Museum, Sydney; author of "The Useful Native Plants of Australia," (in the *Year Book of Australia*.)

## THE BRITISH FRUIT GROWERS' ASSOCIATION.

### FRUIT PROSPECTS.

At a meeting of the above Association, held in the Horticultural Club, Hotel Windsor, on Thursday, July 9th, at 6 P.M., the ordinary routine business was transacted, and further arrangements were made for the various Conferences. It was announced that at Cardiff, on August 12th, Mr. A. Pettigrew would read a paper on "Hardy Fruit

Culture in South Wales," also that several other valuable papers had been promised. Two Vice-Presidents were added to the already long list of influential gentlemen—namely, Cyril Flower, Esq., M.P., Aston Clinton, and H. L. Stephens, Esq., Finchley, both of whom are especially interested in horticulture. It was also stated that at the Beddington Park Conference, on August 3rd, Sir James Whitehead, Bart., would preside and deliver an opening address, to be followed by short papers on different aspects of fruit culture.

Reports on the condition and prospects of fruit culture had been received from numbers of members, of which the following were selected and read:—

*Bucks.*—Very sorry I cannot send you a favourable report of our large fruit orchards. The trees were in full bloom on the 17th of May, when we had 7° of frost, and again on the 19th we had 7°. These frosts killed all the young shoots on our Walnut trees, and cut off half the bloom on the Plum trees. Still I think on many trees we shall have half a crop. Apples being much later, they will be a good all-round crop. Pears and Plums on walls are a good crop, Peaches and Nectarines a good regular crop, Apricots the same, Cherries half a crop. Small fruits of all kinds are plentiful and good. Strawberries are a very heavy crop.—J. SMITH, *Mentmore*.

*Herts.*—I send a few details of hardy fruit prospects in this district. Apricots heavy crops on all trees. Apples not so plentiful as the early promise. Fruit thinned by frost and cold winds, but here most trees have a fair crop. Pears are generally well cropped. Plums heavy crops, trees breaking down by the weight of fruit, including Damsons. The same may be said of Gooseberries and Currants. Cherries are plentiful. Strawberries good crops, but not such fine fruit as in past years. Plants were much injured by caterpillars, and the fruit is not so good in flavour. Too much wet. Peaches and Nectarines partial; some trees are well cropped, others thin. Raspberries show well. Filberts thin crops.

The above remarks respecting the fruit crops in these gardens will apply also to the surrounding neighbourhood. All vegetable crops are looking splendid owing to the showery weather. We have been quite free from the caterpillar on Apple trees, which wrought such destruction in the three past years.—JAMES C. MUNDELL, *Moor Park Gardens*.

*Fruit Crops at Sawbridgeworth.*—Black Currants very scarce; Red, plentiful. Gooseberries plentiful. Cherries are not grown for market in this district. Plums.—Early Rivers, an enormous crop; Czar (Rivers), an enormous crop; Sultan (Rivers), a fair crop; Archduke (Rivers), a very large crop; Monarch (Rivers), plentiful, but not excessive; Prince Englebert, very abundant; Victoria, a very poor crop; Belle de Louvain, a very poor crop; Late Black Orleans, a very poor crop; Oullins Golden Gage, enormous, trees already breaking down; Cluster Damsons, moderate. Pears.—Beacon (Rivers) and Fertility (Rivers), abundant crops. Apples.—Duchess of Oldenburg, plentiful; Stirling Castle, plentiful. The Apple crop has partially failed.—T. F. RIVERS, *Sawbridgeworth*.

*Somerset.*—Apples are disappointing. The trees flowered grandly, but were much damaged by frosts, and there are many failures, the rest of the trees being fairly well cropped. This applies to both orchard and garden trees. Crop apparently below the average. Pears against walls were never more promising, failures being few and far between. The trees in the open flowered later, and were caught by the frosts, and the crops are very partial. Much the same remarks apply to Plums, the wall trees being heavily laden, and the rest lightly cropped. Cherries, with the exception of Morellos, are a poor crop generally. Apricots and Peaches good, especially where well protected. Gooseberries and Black Currants were much injured by the Whitsuntide frosts, and the crops are very light. Red Currants are fairly good, and Raspberries very promising. Strawberries were injured by frosts, checked by dry weather, and now are suffering from too much moisture. So far as I can ascertain the foregoing is a similar experience to what holds good hereabouts (Chard district, Dorset, and Somerset).—W. IGGULDEN.

*Hants.*—The fruit prospects in this neighbourhood are, on the whole, very promising. Strawberries are abundant, but late, owing to the severe frost of May 17th killing early blooms. Gooseberries, Currants, and Raspberries plentiful. Apples on the whole are an average crop, variable, in some places heavy, others light. Pears are a full crop on walls; Plums on walls full crop, in the open generally thin, a few exceptions have heavy crops. Damsons are very thin; Cherries a full crop. The trees on the whole are fairly clean. On some aphids has been troublesome, but there is no appearance of caterpillar.—E. MOLYNEUX, *Swanmore Park Gardens*.

*Notts.*—With us Peaches do not come under the heading of "hardy fruits." Apricots on walls are about half a crop. I saw some on my own house, the blooms of which were (on the Saturday preceding Whitsuntide) filled with snow, and during the night following were subjected to 9° of frost, and yet there is a fair sprinkling of fruit. Apples, the most important factor, are disappointing after the wealth of blooms which covered every tree and made them look like sheets of colour. I attribute the failure chiefly to the fact that it rained almost continuously during seven days of the blooming season. The flowers remained on for a long time and then dropped off. Most people think the frost caused the mischief, but having examined very many blooms after the frost and finding a large proportion uninjured I think the frost must be released from the charge. Duchess of Oldenburg is as usual to the front, and has come through both frost and wet. Some of the late Apples will carry a full crop, but Keswicks and many of those which bloom at midseason will have but little to carry. Pears



are almost all full, except early kinds on the Quince, which were frozen. Of Plums, the hardier kinds, Victoria, Czar, &c., are full; but tender kinds, such as the Gages, were washed away and frozen. The frost made great havoc with many. Damsons are nearly all gone. Gooseberries and Red Currants a fair crop. Black Currants scarce owing to frost. All the early blooms of Strawberries were frozen. A grand growing season, trees healthy and free from blight or any insect pest.—A. H. PEARSON, *Chilwell*.

*Sussex*.—The fruit crop in this district is a favourable one, due in a great measure to the fine autumn for ripening the wood, also to the absence of spring frosts and to the diminution of the caterpillar. Compared to the two previous years we were remarkably free from it, although in some orchards the destruction has been great, owing to neglect at the proper time in spraying the trees. Apples.—An abundance of bloom, and everything looked promising for an extraordinary crop. Early sorts set well; main crop in full bloom, when a series of eight or nine wet days severely thinned the blossom. Although we have a good general crop in the nursery there will only be a partial crop of the main sorts in the district. To sum it up, a good crop of early sorts, main crop partial, late sorts good. Pears.—A very fine crop indeed, one that we have not had in this district for several years, the blossom having set well before the rain commenced. Plums.—A very heavy crop. The best we have had for two or three seasons. Cherries.—A fair crop. Peaches and Nectarines.—A very heavy crop of fine fruit, have had to be severely thinned. Gooseberries.—A very good crop. Currants.—A good crop. Strawberries.—Good. Raspberries.—Good. We have been favoured here with warm heavy showers of almost tropical rain. Trees are making rapid growth, and all kinds of fruit are swelling fast. Should the season continue warm there will probably be a heavy crop of unusually fine fruit.—J. CHEAL, *Crawley*.

*Essex*.—Apples good. Duchess of Oldenburg, Worcester Pearmain, Stirling Castle, and Cox's Orange have the best crops. Apricots good. Cherries scarce, except on walls. Currants: Red scarce; Black moderate. Figs moderate. Gooseberries good (abundance). Peaches good. Pears good on walls and cordons. Plums moderate. Raspberries and Strawberries abundant.—W. GOARING, *Weald Hall, Brentwood*.

Apples, Pears, and Peaches, an average crop; Apricots and Plums, above average; Cherries and Strawberries, average; Black, Red, and White Currants, and Gooseberries, under average; Raspberries, average. Gooseberries and Currants were injured by the frost and snow on the 16th May.—H. LISTER, *Easton Lodge, Dunmow*.

*Kent*.—As regards the crops for this year my present estimate is as below:—Apples.—Early kinds good crop, later ones patchy. Cox's Orange and Wellington suffered from the Whit-Sunday frost. Blenheims short, other later kinds a good crop. Nearly all kinds grand on Paradise. Pears.—Orchard trees well set. On Quince, &c., fine crop of nearly all kinds, but Doyenné de Comice and Beurré Hardy suffered from the low temperature. Cherries.—Very partial, better in Mid than East Kent; Morcellos very full. Plums.—Rivers' Prolific short, Czar grand, and a fine crop of all other kinds except Green Gage. Damsons.—Fine crop of all sorts. Nectarines, Peaches, and Apricots.—Moderate. Black Currants.—Partial, good on heavy soils, and where the old Dutch Black is grown. Red Currants.—Three-quarter crop. Gooseberries.—Thin, growing out well. Warrington and Rifles suffered from frost. The Whitesmith race are best this year. Strawberries.—Marvellous crop. King flowers cut by frost, making us ten days later than usual. Raspberries.—Canes much frosted, three-fifths of a crop.—G. BUNYARD, *Maidstone*.

Prospects of fruit in this neighbourhood. Apples fair crop. Plums a heavy crop. Damsons partial. Cob Nuts good. Pears not grown.—ALBERT BATH, *Sevenoaks*.

*Warwickshire*.—Apples a light crop on most varieties, those having the best on both young and old trees, Manx Codlin, Keswick Codlin, Nelson Codlin, Lord Derby, Lord Suffield, Stirling Castle, Flanders Pippin, and Blenheim Pippin. Pears a fair crop. Plums on walls fair, on standards light, with the exception of the Pershore, which in general have a full crop. Damsons partial; while some trees are light, others have a full crop. Apricots, Cherries, and Peaches light crop. Small fruits: Strawberries lost all the first blooms by frost, and that with the lateness of the season made it the end of June before we picked the first dish, which is usually done about the middle of the month. We have a fair crop, King of the Earlies, Noble, Wonderful, and Vicomtesse H. de Thury doing best. Gooseberries, Red Currants, and Raspberries are an average crop. Black Currants very light crop, owing to the frost in May.—A. CHRISTIE, *Ragley Gardens*.

## OUTDOOR MUSHROOM CULTURE.

IN the *Journal of Horticulture* of July 2nd a record on outdoor Mushrooms was given, and a bed illustrated. As a further proof of the successful adoption of Mr. Wright's plan I send you a few notes. Kenilworth is fast becoming a market-growing district for Strawberries, Tomatoes, and Mushrooms especially, and the culture of the latter on outdoor beds is successfully conducted by Mr. Joseph Murdock, the Manager of the Crewe Gardens near Kenilworth. There are several beds now in full bearing, and have been so for a long time. Instead of the ordinary 3 feet wide beds at the base, as made by some growers, Mr. Murdock starts with a 4 feet wide, rising to from 2 feet 9 inches to 3 feet high in the centre, and about a foot wide at the top. The manure used is obtained chiefly from the railway stables, with a little long

manure worked in with it, prepared in September, and subsequently made up. These broader beds hold the heat much longer than the 3 feet wide beds.

From 5 to 6 weeks after being spawned, and only the ordinary garden soil used for surfacing, the young Mushrooms began showing, but the very severe weather of December destroyed them, although the beds had a foot depth of straw litter over them. The spring-like weather of February brought out another crop, which would have reached maturity had March been mild, but the severe frost again destroyed the young crop, and for a long time the beds were frozen to some depth, but this caused no injury whatever to the spawn. I saw the beds in full bearing at the end of May, and a very large crop was then being daily gathered from them. They are still (middle of July) yielding well, and will continue for some time.

Mr. Murdock exhibited at the Kenilworth Flower Show on July 9th a fine lot of Mushrooms from these outdoor beds, and one has only to see them at Crewe Gardens to be convinced that properly made with suitable manure, and good spawn used, the cultivation of Mushrooms outdoors is easy.—D.

## NEPHROLEPIS.

THE Nephrolepis, or "Sword Ferns" as they are sometimes called, comprise a very handsome group, and also a very useful one, their long graceful fronds mingling very happily with those of different habit. The members of this family are of easy growth, and also easy to multiply, as some of the species may be readily procured from spores, while all may be readily increased by planting out on a bench in a Fern house in order to allow the rapidly growing rhizomes or creeping stems to develop. In fact, some species may be planted outdoors in a shaded place during the summer with good results, both *N. exaltata* and *N. pectinata* doing well under such treatment, and the plants so grown make admirable specimens for decorative work during the following winter. These plants make long, wiry rhizomes which travel either on or just beneath the surface of the soil, and on these at short intervals are produced the young plants.

Regarding temperature during the winter, it may be stated that any of the Nephrolepis may be grown in a house that ranges from 55° to 60°, while *N. exaltata* and *N. cordifolia* (or *N. tuberosa*) will thrive in a much lower temperature. In cultivation there is one very essential point to be remembered, and that is never to allow any of the Nephrolepis to get very dry, as the pinnae are articulated, or jointed to the midrib, and the consequence is that if allowed to become very dry they will drop much of their pinnae.

Among the finest should be included *N. davallioides furcans*, a very strong grower and an elegant exhibition plant, or may be used with good effect in a decoration by placing the specimen on a pedestal so that its fountain-like growth of long, graceful fronds may be displayed to advantage. The fronds of *N. davallioides furcans* are light green and glossy and from 3 to 5 feet in length, the tip of each pinna being divided into from two to five segments or forks, this giving the fronds a crested appearance. In order that this Fern should be in condition for decorating it should be grown in a moderately light house and well ventilated, as by this means the fronds will be hard and of good substance.

Another excellent species, and one of the hardiest, is *N. exaltata*, also a strong grower, and produces long arching pinnate fronds of dark green and attaining a length of 3 to 4 feet. This is well known and makes a first rate window Fern, or may be used as a vase plant during the summer, providing it is not placed in the full sun, and in addition to these advantages the fronds stand well when cut; so taking all things into consideration this is one of the most useful species in the genus.

*N. pectinata* is of much dwarfer habit than the preceding, and consequently makes a more useful small plant for table ferneries and other work of similar character. It has slender fronds from 1 to 2 feet long and closely clothed with dark green pinnae, and as it is evergreen (as are most of this genus) and grows freely during the winter, it has already proved its value as a florist's Fern.

*N. cordifolia*, better known as *N. tuberosa* from its habit of forming small tubers on its rhizomes, is still another good species, being easy to grow and nearly as hardy as *N. exaltata*, and to which it bears some resemblance. It spreads rapidly, and in common with most of the Nephrolepis makes a good basket plant. It bears long stout fronds of light green, and is a useful one for cutting from for large work.

*N. Duffii* is quite a dwarf grower and also very pretty when well grown. It is of tufted habit, the fronds being comparatively upright and dark green in colour, more or less clothed with brown tomentum, and the tips of the fronds several times forked or divided. This species makes a very pretty plant in either 3 or 4-inch pots, and presents a very distinct appearance.

One of the latest additions to this genus is found under the somewhat unwieldy cognomen of *N. rufescens tripinnatifida*, and was introduced about four or five years ago. It is unquestionably one of the handsomest of the genus, but unfortunately is nearly deciduous in the winter; this fact of course detracting from its value for florists' use, though in a well grown specimen it is remarkably attractive during the summer and fall.

*N. rufescens tripinnatifida* bears large plume-like fronds that are comparatively erect in habit, dark green in colour, and the entire plant is more or less covered with reddish brown tomentum, the pinnae being



much cut or divided, so that they have the appearance of being crested.

There are several others catalogued in addition to the species and varieties briefly referred to above, but these comprise the cream of the genus and give variety enough for all ordinary purposes.—W. H. TAPLIN (in *The American Florist*).

## ROSE SHOWS.

GLOUCESTER.—JULY 7TH.

THE promoters of this new and vigorous Society have hitherto been so fortunate in the very material point of fine weather that it was a rude shock to them to find the morning opening in that drizzling sort of rain which is so depressing to all with attractions which are so dependent on a fine day for success. It was fortunate for them that the Show was held under cover in the Corn Exchange, and in the afternoon the weather cleared off in time to allow visitors to see the treat that was provided for them. The liberal schedule and the excellent arrangements that had been made for the exhibitors under the able and courteous Secretary brought together a large number of exhibitors. Very many flowers of excellent quality were exhibited. Thus in the class for seventy-tvos there were five competitors, although at the Show of the National at the Crystal Palace there were only three; and although, as generally has hitherto been the case in this season of violent thunderstorms, there were few flowers of special excellence there were many which were of real merit, and especially was this the case in the amateur classes, those of Mr. S. P. Budd and Mr. Pemberton being specially noticeable.

In the class for twelve distinct the first prize was awarded to Mr. B. R. Cant of Colchester for a fine stand of the following varieties:—Alfred Dumesnil, Queen of Queens, Ulrich Brunner, Madame Caillot, Duke of Teck, Marie Van Houtte, Magna Charta, Madame de Watteville, Abel Carrière, Niphetos, Ferdinand de Lesseps, Countess of Oxford, Annie Laxton, Madame Bravy, St. George, Jean Soupert, Caroline Kuster, Duke of Wellington, Grace Darling, Sultan of Zanzibar, Madame Cusin, Caroline Kuster, Boule d'Or, Countess of Rosebery, Etoile de Lyon, Alfred Colomb, Baroness Rothschild, Souvenir de S. A. Prince, La France, Cleopatra, Marie Verdier, Marguerite de St. Amand, Camille Bernardin, Marie Cointet, Marie Baumann, Rubens, Marquise de Castellane, Comtesse de Panisse, Souvenir d'Elise Vardon, Mrs. John Laing, Violette Bouyer, Innocente Pirola, Madame Clemence Joigneux, Catherine Mermet, Général Jacqueminot, Madame G. Luizet, Angèle Jacquier, Merveille de Lyon, Le Havre, Souvenir de Paul Neyron, Lord Macaulay, and The Bride. Messrs. Paul & Son were second with a good stand, in which was conspicuous a fine bloom of their new Bourbon Mrs. Paul. Mr. Frank Cant was third; the English Fruit and Rose Company (Cranston) fourth; and Mr. George Prince fifth.

In the class for twenty-four trebles Mr. B. R. Cant was again first with a good stand of Abel Carrière, Souvenir d'Elise, Prince Arthur, Magna Charta, Baroness Rothschild, Annie Laxton, Maréchal Niel, Duke of Wellington, Ulrich Brunner, Innocente Pirola, Madame de Watteville, Camille Bernardin, A. K. Williams, Marie Van Houtte, La France, Madame Cusin, Général Jacqueminot, Souvenir d'un Ami, Madame G. Luizet, Victor Hugo, Duke of Edinburgh, Duchess of Vallombrosa, Merveille de Lyon, Dupuy Jamain, and Alfred Colomb. Mr. F. Cant was second, and Mr. Geo. Prince third.

In the class for twenty-four single trusses, Messrs. G. & W. Burch of Peterborough were first with Her Majesty, Exposition de Brie, Mons. Noman, Marie Baumann, Antoine Ducher, Violette Bouyer, Etienne Levet, Madame G. Luizet, Duke of Edinburgh, Lady M. Fitzwilliam, La Rosière, Niphetos, Reynolds Hole, Catherine Mermet, Comtesse de Nadaillac, and Madame V. Verdier. Miss Tressider of Cardiff was second. In the class for twelve trebles Messrs. Jefferies & Sons of Cirencester were first with Madame V. Verdier, Mrs. John Laing, Captain Christy, La France, Exposition de Brie, Duke of Edinburgh, Viscountess Folkestone, Duke of Teck, Rubens, Etienne Levet, and Charles Lamb. Messrs. Burch were second, and Messrs. Mattock of Oxford third.

In the class for eighteen Teas and Noisettes (trebles) Mr. George Prince of Oxford was first with lovely blooms of Comtesse de Nadaillac, Rubens, Souvenir d'un Ami, Alba Rosea, Maréchal Niel, Anna Ollivier, Marie Van Houtte, Catherine Mermet, Souvenir de S. A. Prince, Francisca Krüger, Hon. Edith Gifford, Jean Ducher, Princess of Wales, Cornelia Koch, and Souvenir de S. A. Prince. Mr. F. Cant was second. In the class for twelve Teas and Noisettes (single trusses), Mr. John Mattock was first with Comtesse de Nadaillac, The Bride, Catherine Mermet, Princess of Wales, Souvenir d'Elise, Souvenir d'un Ami, Francisca Krüger, Cornelia Koch, Adam, and Madame Hippolyte Jamain. Messrs. Burch were second, and Mr. Rumsey third.

In the amateurs' class for thirty-six blooms there was a sharp contest between those two redoubtable champions, Mr. S. P. Budd and the Rev. J. H. Pemberton, the former gaining the victory with an excellent box, containing Her Majesty, Exposition de Brie, Marie Baumann, Duchess of Vallombrosa, Magna Charta, Ulrich Brunner, Antoine Ducher, Violette Bouyer, Madame G. Luizet, Pride of Waltham, Madame Bravy, Duke of Edinburgh, A. K. Williams, Lady Mary Fitzwilliam, Madame Willermoz, La Rosière, Niphetos, Comtesse de Nadaillac, Reynolds Hole, Innocente Pirola, Marie Verdier, Souvenir d'Elise Vardon, Madame

Cusin, Louis Van Houtte, Merveille de Lyon, Alfred Colomb, &c. The Rev. J. H. Pemberton was second with fine blooms, among them being a grand bloom of Ulrich Brunner, for which the silver medal of the National Rose Society for the best H.P. in the amateur classes was awarded. In the trebles, twelve varieties, the same order was observed. Mr. Budd's flowers were Madame Verdier, Merveille de Lyon, Captain Christy, La France, The Bride, Mrs. John Laing, Exposition de Brie, Duke of Edinburgh, Viscountess Folkestone, Duke of Teck, Etienne Levet, Rubens, Madame Gabriel Luizet, Charles Lamb. Mr. Pemberton was second. In the class for twelve blooms of any light Rose Mr. B. R. Cant won the first prize with a beautiful lot of Madame de Watteville; The Cranston Company were second with La France; and Mr. Budd third with Mrs. John Laing. In the prize for twelve of any dark Rose Mr. Prince was first with Camille de Rohan; Mr. B. R. Cant second with Ulrich Brunner; and Mr. Frank Cant third with the same variety. In the class for twelve of any yellow Rose Mr. Prince was first with Marie Van Houtte; Mr. B. R. Cant second with the same variety.

Silver medals were awarded as follows:—1, The best H.P. by any amateur, Marshal P. Wilder, Rev. J. H. Pemberton; 2, The best Tea by any amateur, The Bride, Dr. Budd; 3, The best Rose by a Gloucestershire amateur, The Bride, Mr. T. A. Washbourn; 4, The best Rose by an amateur within the boundary of the City of Gloucester, La France, Mrs. Pike; 5, The best Tea by a Gloucester amateur, The Bride (the same Rose as No. 3), Mr. T. A. Washbourn; 6, The best Rose in the Cottagers' Division, La France, Mr. F. Bircher. The first four medals were given by the Gloucestershire Rose Society; 5, by Mr. W. J. Grant; 6, by Mr. J. Thorpe.

I have only enumerated here the principal classes, but I cannot close these notes without expressing the great satisfaction experienced by seeing the progress made by local amateurs in the exhibition of their flowers. When the Show was first contemplated a gentleman long resident in the city said it was no use trying to grow Roses in Gloucestershire, and when he saw the first exhibition he might have pointed to local stands as proof of his statement, but he would have thought very differently of this Show; there was an absence of bad blooms and the presence of some really excellent ones, which was most creditable to the growers, and only showed how much good is done by such exhibitions. It may be added that one bloom exhibited in this class obtained two silver medals, and Mr. Conway Jones' blooms were all very creditable, and this fact alone would be sufficient to encourage the promoters of the Show to go on and prosper, for to give people greater enjoyment in their gardens, to encourage the standard of excellence, and to bring into the pleasant arena those who have feared they could not grow Roses good enough are surely aims worth seeking after, and these aims were very successfully prosecuted by the Gloucestershire Rose Society.—D., Deal.

DISS.—JULY 7TH.

THIS is a most excellent and plucky little Show, where all the arrangements are of the first order and the exhibits are generally of a high class. All that is wanted is a sufficient number of people to come and see it, and the neighbourhood, being not thickly populated, this desirable foundation of prosperity is often sadly shaken by a shower or two. A fine afternoon will bring people into a flower show if they are close at hand, but if they have some miles to drive, a thundershower in the middle of the day (and Diss has often been unfortunate in this respect) will keep them at home, although the weather should completely clear up afterwards. An additional attraction was provided this year in the shape of a £10 challenge cup for twenty-four Roses (amateurs), which was given by a few friends in memory of the late Rev. H. T. Frere, who lived near Diss. The candidates for this trophy, consisting of the usual habits of amateur Rose growing in East Anglia, duly arrived therefore by the first train, but it was noticeable that they became somewhat thoughtful and subdued when the legend, "E. B. L., Hitchin," was discovered on some of the boxes in the van. The Show was held on the lawn, by permission of Francis Taylor, Esq., M.P., and when setting up commenced, the presence of representatives of not only the amateur champion, but also the present and late professional trophy holders, gave promise of a good show of such Roses as were to be had for the good folk of the little town of Diss and neighbourhood. The professionals, however, had evidently not yet begun to cut from their maiden or strongest shoots, and the best blooms, both H.P. and Tea, were still to be found in the amateur classes.

In the open class for thirty-six five stands were shown, and Mr. Frank Cant of Colchester was placed first with a fairly even collection, in which, however, no blooms could be called quite first class, unless it was a solid one of Lady Mary Fitzwilliam. Rev. A. Foster-Melliar of Sproughton was second with well coloured and tolerably clean examples, but nothing of more than average merit. D. Prior & Sons of Colchester were third with smaller blooms. Mr. B. R. Cant and Rev. H. A. Berners of Harkstead also exhibited in this class. Three stands were shown for two prizes in the eighteen Teas (open) class, and Mr. Berners was placed first, having fair specimens of Innocente Pirola and Cleopatra. Mr. B. R. Cant was second with a lot of medium quality; and Mr. Foster-Melliar was unplaced with a poor looking stand.

For the new challenge cup in the class for twenty-four (amateurs) there were four exhibits. Mr. Foster-Melliar was placed first with a good box of H.P.'s, large, solid, and highly coloured. Among his best blooms were Madame G. Luizet (which gained the medal as the best H.P.),



E. Y. Teas (very fine), Lord Macaulay, and Le Havre. There was an absence of pointed shapes and of light coloured varieties, but the whole were smooth and good. Mr. Berners was second with blooms of less substance, Victor Hugo, John Bright, and Le Havre being among his best. Mr. Lindsell of Hitchin was third, his best bloom perhaps being Grand Mogul. Five boxes were shown in the class for twelve Roses, and Mr. T. H. Powell of Drinkstone was easily first, showing good examples of *Maréchal Niel* and *The Bride*, and also a fine specimen of the new Rose *Gustave Piganeau*, which, if it proves thoroughly distinct, as I think it will, is likely to take a high place as a Rose of the *Ulrich Brunner* order. Mr. Page Roberts of Scole was second; and Mr. Bunn third.

In twelve Teas (amateurs) Mr. Berners again showed his superiority in this department by taking the first prize; he had here a large flower of *Comtesse de Nadaillac*, somewhat blunt in point, a solid *Souvenir de S. A. Prince*, and a fine, but badly coloured, *Madame Hoste*. Mr. Page Roberts was second, having a fine *Niphetos*, a good *Souvenir d'Elise*, and a quite small, but exquisitely perfect, specimen of *The Bride*, which took the medal as the best Tea Rose. Mr. Foster-Melliar was third, having as his best a good example of *Princess of Wales*. There were creditable exhibits in the local classes, Rev. A. T. Farquharson, Messrs. A. G. Bobby, and W. Burrows in the twelve, and C. S. Alger, A. G. Bobby, and W. Bunn in the six, winning in the order named. Mrs. H. T. Frere gave a silver N.R.S. medal for the best Rose in these two classes, which was won by a bloom of *La France* in Mr. A. G. Bobby's six. Mr. Page Roberts and Mr. Foster-Melliar staged extra boxes of *Madame G. Luizet*, large, and in good condition.

Hardy perennials always form a strong feature at Diss. Mr. Page Roberts was placed first in the principal class for thirty-six, a bunch of *Scabiosa caucasica* being the most noteworthy variety. Colonel Rous was second. Rev. C. W. James of Upper Rickingham, and Mrs. Norris of Blo Norton were also successful exhibitors in this department.

Collections of rare wild flowers have often been a strong and most interesting part of the Diss Show, but the two stands exhibited did not seem to be of so varied or attractive a character as usual. Nevertheless, there was a class in the cottagers' division with three small prizes for wild flowers, and here there were, unless I made a mistake, no less than fifty-two exhibits, showing that somebody must have interested the children very strongly and happily in the matter. Though the prospect was not cheerful when I left, I heartily trust that the attendance and receipts were of a nature to strengthen this capital Society and cheer the heart of its mainspring, Mr. Page Roberts, the Hon. Secretary and clever manager.—W. R. RAILLEM.

#### HITCHIN.—JULY 8TH.

THE Hitchin Rose Society has taken a new departure, for those who were interested in it found that the Rose itself had not sufficient attractions to draw the general public, and that it was only those who were practically interested in them, who grew them and knew something of them, who would visit the Exhibition, whereas by opening it to other things it was thought that the same sort of a bait would be widened, and "draw" a large attendance. There are many persons who are sure to admire Carrots and Potatoes, Cucumbers and Melons, who would merely give a glance at a Rose stand; and the result justified the view taken, for although there was a most terrific thunderstorm in the afternoon, yet there was a very good attendance of visitors.

The Show was held in tents on the grounds attached to the Grammar School, a new institution, and were admirably suited to the purpose, being in the centre of the town, and affording, had the day been fine, ample space for promenading and listening to the excellent band. The principal tent was a large and lofty one; the Roses were ranged round the sides, while plants, stove and greenhouse, foliage, Ferns, and others filled up the centre, being placed on the grass.

As our champion amateur (for he has won the challenge trophy for the last two years) Mr. E. B. Lindsell resides here, it was natural to expect some good Roses would be exhibited, and as the town occupies a very central position for the counties of Herts, Bedford, and Cambridge, it ought to attract exhibitors from the three counties, and in a more favourable season it might do so; but I had no conception until I had been round Mr. Lindsell's garden that Roses could be so backward as they are, for while mine are over for the season, there they are hardly in—indeed in most instances the trees are a mass of green foliage, the buds not even showing colour, and in many instances only just formed; the soil, though suited for the Rose, is cold, and in seasons like the present retards the blooming. This, however, is a digression, and I must now notice the Roses.

In the nurserymen's class the first prize was taken by Messrs. G. & W. Burch of Peterborough with a good stand, containing *Her Majesty*, *Ulrich Brunner*, Mrs. John Laing, *Abel Carrière*, *Madame G. Luizet*, *Exposition de Brie*, *Alfred Colomb*, *La France*, *Madame Willermoz*, *Horace Vernet*, *Mons. Noman*, A. K. Williams, *Fisher Holmes*, *Violette Bouyer*, *Auguste Rigotard*, *Innocente Pirola*, *Alfred Dumesnil*, *Madame de Watteville*, *Prince Arthur*, *Merveille de Lyon*, *Camille Bernardin*, *Niphetos*, *Heinrich Schultheis*, *Grand Mogul*, *Lady Mary Fitzwilliam*, *Madame Eugène Verdier*, *Grand Mogul*, E. Y. Teas, *Catherine Mermet*, *Madame Bravy*, *Camille Bernardin*, *Comtesse de Nadaillac*, *Marquise de Castellane*, *Viscountess Folkestone*, *Queen of Queens*, *Pierre Notting*, *Baroness Rothschild*, *Etienne Levet*, *Magna Charta*, *Reynolds Hole*,

*Earl of Dufferin*, and *Crown Prince*. Messrs. J. Burrell & Co., *Howe House Nurseries*, Cambridge, were second, and Messrs. Paul & Son third.

In the class for twenty-four, amateurs, the first prize was won by Mr. E. B. Lindsell with a box of his well finished blooms, although they were not up to the mark of former years. The flowers were *Charles Lefebvre*, *Baroness Rothschild*, *Louis Van Houtte*, Mrs. John Laing, *Horace Vernet*, *Susanne Rodocanachi*, *Ulrich Brunner*, *Viscountess Folkestone*, Dr. Andry, *Merveille de Lyon*, *Alfred Colomb*, *Duke of Wellington*, *Abel Carrière*, *Camille de Rohan*, *Hippolyte Jamain*, *Marie Verdier*, *Madame Hausmann*, *Victor Hugo*, *Sénateur Vaisse*, *Le Havre*, *Catherine Mermet*, *Madame G. Luizet*, *Général Jacqueminot*, and *Dupuy Jamain*. Mr. Edward Mawley was second, and Mr. J. Gurney Fowler third.

In the class for twelve Teas Mr. E. B. Lindsell was again first with *Madame Cusin*, *Catherine Mermet*, *Boule d'Or*—this bloom was in the trophy stand on Saturday, and has since been exhibited at Diss. *Souvenir d'un Ami*, *Innocente Pirola*, *Etoile de Lyon*, *Comtesse de Nadaillac*, *Souvenir de S. A. Prince*, *Madame de Watteville*, *Souvenir d'Elise*, *The Bride*, and *Anna Ollivier*. The Rev. W. H. Jackson of Stagsden Rectory, Bedford, was second. In the class for twelve Roses, distinct, Mr. Lucas was first with *Violette Bouyer*, Dr. Sewell, *Madame G. Luizet*, *Rosieriste Jacobs*, *Ollivier Delhomme*, *Catherine Mermet*, *Duchess of Bedford*, *Dupuy Jamain*, *Charles Lefebvre*, *Duke of Edinburgh*, *Marie Finger*, and *Louis Van Houtte*. Miss Bailey Denton was second, Mr. George Moules third, and Mr. James Parker fourth.

In the class for nine, distinct, Mr. Lucas was first with *Marquise de Castellane*, *Charles Lefebvre*, *Victor Verdier*, *Alfred Colomb*, *Madame G. Luizet*, Dr. Andry, *Madame Eugène Verdier*, *Louis Van Houtte*, and *La France*. Mr. Lines was second. For six Roses, distinct, Mr. L. Moules was first with *Souvenir d'un Ami*, *Horace Vernet*, *Marquise de Castellane*, *Duke of Edinburgh*, Mrs. J. Laing, and *Duke of Teck*. Mr. P. T. Karns was second, Colonel Tyler third, and Mr. W. Ransom fourth. In the class for six Teas Mr. George Wiles was first with *Jean Ducher*, *Caroline Kuster*, *Catherine Mermet*, *Comtesse de Nadaillac*, *Innocente Pirola*, and *Souvenir d'Elise*. For six of any one kind H.P., the Rev. W. H. Jackson was first with *Madame G. Luizet*; Mr. E. B. Lindsell and Mr. J. Gurney Fowler equal second with Mrs. J. Laing and *Ulrich Brunner*. For six Teas of any sort Mr. Jackson was the only competitor with *Marie Van Houtte*. The silver medals were awarded for the best H.P. to Mr. E. B. Lindsell for *Madame G. Luizet*, and Mr. E. Mawley for *The Bride*. Two boxes of new Roses were exhibited by Messrs. W. Paul and Son and Messrs. Paul & Son. In the former were two promising Roses, a light pink something of the *Baroness Rothschild* type of flower, and a richly coloured Tea. In the box of Messrs. Paul & Son were blooms of their beautiful new Bourbon Mrs. Paul, and also of a red coloured H.P. *Charles Gater*, bearing the name of their able Rose foreman, who is so well known everywhere.

Amongst the miscellaneous exhibits I was glad to notice a goodly number of stands of cut blooms of herbaceous plants. Most worthy of note amongst these were the two large collections of Messrs. Burrell and Son of Cambridge and Mr. Tuke of Hitchin. The former were shown in large bunches, and amongst them was *Heuchera sanguinea*, about which so much has been said as to the best way of growing it, many having found it difficult to get any number of flowers, while others say it flowers abundantly with them. There were also *Stenactis speciosa*, *Delphinium Belladonna*, *Iceland Poppies*, *Monarda didyma*, and many other good border flowers. Mr. Tuke's collection also was rich and varied, and came from a most delightful garden in the town of Hitchin, of which I may have to say something at some future time, and in which it was a pleasure to saunter on the beautiful July morning on which I visited it.—D., Deal.

#### WOODBIDGE.—JULY 9TH.

WOODBIDGE Flower Show has long been celebrated in three particulars—first for the hearty and unanimous way in which the whole of the little town takes holiday, decks itself with flags and bunting, and treats the Show as one of the greatest and most firmly established institutions in the neighbourhood; secondly, for the excellence of the general exhibits of fruit, flowers, and bouquets, in which it has probably no rival in East Anglia; and last, but not least, for its extraordinary good fortune in always having a fine day. I am almost afraid that lawn tennis parties and cricket matches will soon begin to choose Woodbridge Show day as the only day on which absence from rain can be safely counted on. Last year it had the only fine day in a wet week, and this year, in the middle of a heavy thunderstorm on the afternoon before, the glass began to rise as if it felt the influence of the approaching day, and on the day itself (the fortieth anniversary), though they had three hours' continuous rain in the forenoon not twelve miles off, two or three passing showers in the morning gave place at Woodbridge to a brilliant afternoon. The Society is under new management, and is improving in every way yearly; it is considerably stronger financially, and the officials are courteous and obliging.

As a Rose Show the schedule has been slightly altered and enlarged, but there is here considerable room for improvement. A class for forty-eight, and then no larger class for single trusses than eighteen, omits that which is the best of all classes—twenty-four; and a number of classes for six gives the tent a spotted appearance, and is not calculated to draw the best Roses from a distance. Moreover, "J. B." would have reasonable ground of complaint here, in that there is nothing to prevent



a strong amateur showing in the forty-eight and in the six class. The latter should be at least partially protected, and then there would be no need of so many small boxes.

There was a good attendance of professional Rose growers, but amateur competitors were not numerous, and the same two or three rang the changes throughout. Five stands of forty-eight were shown, and a close competition ensued for the first place between the two leading growers of Colechester. Mr. Frank Cant was placed first, showing good specimens of Victor Hugo, Charles Lefebvre, Madame G. Luizet, Mrs. John Laing, The Bride, and that most decorative H.T. Viscountess Folkestone. The battle for the medal for the best Rose in the open classes was fought between the two first-named Roses, and eventually went by a very little to the Victor Hugo. Mr. B. R. Cant was second, showing Madame de Watteville very fine as usual, and Madame Cusin, Gustave Piganeau, and Alphonse Soupert good. Rev. A. Foster-Melliar was third, his best blooms being Xavier Olibo (which seems to be unusually good this year), and Le Havre a little off colour.

In twelve Teas (open) Mr. Foster-Melliar was placed first, Mr. Blant second, and Mr. Hart third. Truly, as I remarked last year, Tea Rose showing in showery weather is a funny business, for nine out of the twelve blooms in the first prize box had been shown and unplaced at Diss two days before. There was nothing noteworthy in the class, Madame Cusin and Catherine Mermet being pretty well shown in each box.

For six Teas (open) Mr. Orpen of West Bergholt was first, Rev. H. A. Berners of Harkstead second, and Mr. Woods of Woodbridge third. The latter had some fine blooms, but one or two of them were a trifle overdressed. In twelve trebles of H.P.'s (open) Mr. F. Cant was first, having good triplets of Mrs. John Laing and Victor Hugo; Mr. Berners second, with fair examples of Ulrich Brunner and A. K. Williams; Mr. Foster-Melliar third, showing Le Havre and Marie Baumann well, but some roughness in his other blooms. Two stands were disqualified for including triplets of Teas. As twelve trebles of H.P.'s is a somewhat unusual class it would be well if it be repeated that special prominence should be given in the schedule to the fact that only H.P.'s are to be shown.

In the class for eighteen (amateurs) two fine stands were shown by Mr. Foster-Melliar and Mr. Berners. The former was placed first, having capital examples of Duke of Wellington, Xavier Olibo, and Le Havre. Mr. Berners, in the second prize stand, had an unusually good specimen of Prince Camille de Rohan (not in full colour), and a good Le Havre. Mr. J. G. Fowler of Woodford was third, having a perfect bloom of Duehcsse de Morny, which took the medal as the best Rose in the amateur classes, though it was decidedly undersized. In twelve Mr. Berners was first with average blooms; Mr. Fowler second, having a fair specimen of A. K. Williams; and Mr. Foster-Melliar third, having Le Havre, Xavier Olibo, and Ulrich Brunner, pretty good; but the rest below par. In a large class of sixes Mr. Foster-Melliar was first, having Le Havre, Duke of Wellington, and Dupuy Jamain, good. Mr. Berners was second, with Mrs. John Laing and Le Havre as his best. Mr. Fowler was third, some way behind.

In the local class for sixes Mr. Foster-Melliar was first, and Mr. E. R. Barlow second. In six Teas (amateurs) Mr. Berners was first, having The Bride and Madame de Watteville, good; Mr. Orpen second, showing a pretty Niphetos, and Mr. Foster-Melliar third. A bronze medal offered for the two best H.P.'s shown by themselves, was taken by Miss Penrice; this is an almost obsolete form of showing, and should be done away with. No one will spoil his box by taking the best Rose out for the sake of a bronze medal. D. Prior & Sons of Colechester showed extra boxes of Mrs. John Laing and Baroness Rothschild in good condition.

In the use of miniature Roses for decoration Mrs. Orpen of West Bergholt came well to the front, and won all round by sheer good taste. In the best basket of cut Roses with any foliage she used W. A. Richardson and L'Idéale with winning effect, but wisely discarded these varieties as too heavy in a "spray for ladies' dress," and so won again against these sorts with a lighter exhibit of a white Polyantha. In the buttonhole bouquet of Roses she won with charming triplets of tiny but high coloured specimens of W. A. Richardson, Ma Capueine, and Moss Blanche Moreau. In another buttonhole class she was only beaten by a choice Orchid. This was a good record, as the competition in each class was strong.

Orchids (principally Cattleyas) were effectively shown by Hormann and Co. of Colechester. Gloxinias made a fine show, especially the stand of Mr. F. Buckingham of Ipswich. There was a famous display of fruit and other general exhibits, well worthy of Woodbridge tradition. May the whole institution continue to flourish, never lose its fine weather reputation, and endeavour to improve its Rose classes on the lines suggested.—W. R. RAILLEM.

#### REIGATE.—JULY 11TH.

THIS Rose show was held on the date named, having been postponed from June 27th. It may be doubted whether a change of date at the last is justifiable. If people have pruned for an early show it is hardly fair to call on them to exhibit at a late one. If people have arranged to be at home at one date and away at another, it is hardly fair to call on them suddenly to reverse this. At the same time you cannot have "Hamlet" without the Prince of Denmark, or a Rose show without Roses, and this seems to have been, to some extent, the position at Reigate. Their entries for the 27th were very small,

and the Committee are certainly to be congratulated on their final success.

In such a season when obstinate buds like bullets alternate with masses of washed-out pulp in many gardens it is something to have brought together so grand a collection. It was stated at the luncheon at which the President of the Association yearly entertains most hospitably the Judges, Committee, and other friends, that the acting officials were more than satisfied of the wisdom of the postponement, having obtained twice the number of entries ever known before, all of which, but for the late storms, would have been fully represented. The competition was good, and in some classes very keen. The following were the prizetakers:—

Division A, open to all England.—Forty-eight varieties, three competitors.—First, Mr. F. Cant. Second, Mr. B. Cant. Third, Messrs. Paul & Son. Niphetos, The Bride, the Duke of Connaught, Dr. Andry, and Madame de Watteville were very fine in the first box.

Twenty-four varieties, three competitors.—First, Mr. T. B. Haywood. Second, Messrs. G. & W. Bureh. Third, Mrs. A. J. Waterlow.

Eighteen Teas, three competitors.—First, Mr. F. Cant. Second, Mr. Prince. Third, Messrs. G. & W. Bureh. Madame Cusin and Comtesse de Nadaillac were magnificently shown in these classes.

Twelve of one variety, four competitors.—This was a grand class, and difficult to judge, Teas competing with Hybrid Perpetuals. Mrs. A. J. Waterlow was a good first with a box of Mrs. J. Laing magnificent in size and perfect in colour. Mr. Prince was second with most lovely Comtesse de Nadaillac. Third, Messrs. G. & W. Bureh with Ulrich Brunner large and bright.

Division B, Members of the Society.—Eighteen varieties, twelve competitors.—First, Mr. Slaughter, whose box contained fine specimens of Marie Rady, Général Jacqueminot, and Dr. Andry. Second, Rev. J. H. Pemberton. Third, Rev. H. A. Berners. This was a very fine class. Six triplets, twelve competitors.—First, Mr. Slaughter. Second, Rev. H. A. Berners. Third, Rev. A. Foster-Melliar.

Twelve Teas, six competitors.—First, Rev. F. R. Burnside. Second, Rev. H. Berners. Third, Mr. Bethune. Etoile de Lyon, The Bride, Jules Finger, and Comtesse de Panisse were fine in the first box, also Comtesse de Nadaillac and Anna Ollivier in the second.

Twelve of one variety, four competitors.—First, Rev. A. Foster-Melliar showing Madame Gabriel Luizet. Second, Mr. Lindsell with Mrs. J. Laing. Third, Mr. Slaughter with Marie Baumann.

Division C, Members.—Twelve varieties, nine competitors.—First, Mr. W. Wilkins. Second, Mr. Mawley. Third, Mr. Grahame. Four triplets.—First, Mr. Wilkins. Second, Mr. F. C. Pawle. Third, Mr. Cuthell. Nine Teas.—First, Mr. Bethune. Second, Mr. Mawley. Third, Mr. Grahame. The Bride shown in Mr. Bethune's box was perhaps the finest in the Show. Nine of one variety, five competitors.—First, Mr. W. J. Dart, with Merveille de Lyon. Second, Mr. Wilkins, with Madame Gabriel Luizet. Third, Mr. Cuthell, with the same variety.

Division D, Members.—Six varieties, five competitors.—First, Mr. J. de la Mare. Second, Mr. J. Watney. Third, Mrs. Hatch. Six Teas, two competitors.—First, Mr. W. D. Freshfield. Second, Mrs. Hatch. Three H.P.'s and three Teas.—First, Mr. Newton. Second, Mr. J. Watney.

Table Decoration for Six Persons.—First, Miss Lorent, with a very graceful arrangement of Poppies and Grasses. Second, Miss Watney, with one similar and little inferior. Devise, Roses with foliage.—First, Miss Horne. Special prizes, twenty-four varieties, eup value £5, open to members residing within five miles of Reigate whose collection does not exceed 2000 plants.—Mr. West was the winner (three competitors). Mr. Prince's prizes £3, £2, £1 for twelve Teas, open to members residing within five miles of Reigate.—First, Mrs. A. J. Waterlow. Second Mr. N. Haywood. Third, Miss Baker. Mr. W. Paul exhibited new Roses. Messrs. Cheal, Roses and a general collection of flowers. Mr. Wollaston had a very pretty box of the Himalayan Briar introduced by the late Mr. Wilson Saunders.



#### HARDY FRUIT GARDEN.

GRAFTED TREES.—These have started into growth well in most instances, and must now have the clay removed and all young growths on the stock also, excepting those left for budding in any place where a failure has occurred in the grafts. It is not well to make any large wounds now on the trees, and the thicker portions of the branches left for drawing up the sap into the grafts may be left until the autumn, and be disbudded in the meantime. The matting used for tying in the grafts should remain for a short time longer until the union of stock and scion is a little farther advanced, and as soon as the matting is removed a short stick must be secured to the stock on which to tie the graft in order to support the young growths and prevent the wind from blowing them out.



**APRICOTS.**—These must now have their final thinning, leaving them evenly disposed over the trees at not less than 9 inches apart each way for the large fruited varieties, and 6 inches in the case of the smaller fruited kinds; the latter are often left much thicker than this, as they are generally used for kitchen purposes, but this is no reason why they should be overcropped one year at the risk of failure in the next. All fruit that is thinned off now will do for the kitchen; besides being useful for tarts they make excellent preserve.

**SUMMER PRUNING.**—All fruit trees on walls, &c., should now be looked over, and those shoots which are required for furnishing the tree must be fastened into position, and all others removed, leaving three or four sound leaves at the base of each one that is taken off to assist in perfecting the crop. The shoots left on may in most instances be easily fastened by placing a shoot of Privet or some similar plant in front of them, and tucking the ends of this under some of the permanent branches. This is much quicker than nailing, which is really of little use at this period, as most of these shoots have to be removed to another place at the winter pruning, and by this means the young wood is not so liable to be damaged. All extremities of branches which are required to extend must be carefully nailed in the direction they are required to go. Peaches, Apricots, and Nectarines should be first attended to in this respect, afterwards Cherries, Currants, &c., leaving Pears and Apples until last, as most of the shoots have to be cut away from the latter, except the extremities of the branches; and it is best to defer their pruning until the first or second week in August, when the wood is firmer and the buds left are not so liable to start into fresh growth again. In summer pruning of all fan-trained trees a certain amount of young wood must be laid in every year to keep a supply near the centre of the tree, and allow of the gradual removal of the old wood, but this must be done judiciously so as not to overcrowd the tree with foliage. The young wood that remains must always have access to abundance of light and air, so that it may get well stored with the necessary materials for the support of the next season's crop, and be fully exposed to the autumn sun to ripen it. If these conditions are not fulfilled a crop of fruit cannot reasonably be expected in the following season.

**MULCHING.**—All wall fruit trees that have good crops of fruit, and any that have been recently planted, will be much benefited by mulching with some half-decomposed manure or some similar material, and in dry weather this should be supplemented with an occasional soaking of water or liquid manure, the latter not to be used where the trees are in the habit of growing too strongly at the expense of fruiting. In all cases enough should be given each time to thoroughly soak the border. Trees sheltered by walls are especially liable to suffer from dryness at the roots during summer, and east aspects are the worst in this respect. In dry seasons mulching is very beneficial to fruit trees in any position which have good crops of fruit, especially Raspberries, Currants, Gooseberries, Morcello and Bigarreau Cherries, Peaches and Nectarines, as it checks evaporation at a time when great quantities of water are required by the trees in order to swell off the crops of fruit. Too often there is very little rain at this period, and any assistance to the trees is amply repaid afterwards by the better quality and larger size of the fruit, also by its assisting the foliage to retain its freshness and plump up the buds for next season's fruiting.

#### FRUIT FORCING.

**VINES.**—*Earliest Vines.*—These will now require a dry atmosphere to thoroughly ripen the wood, but it will not be necessary to employ artificial heat to insure the requisite warmth, as that can be effected by regulating the ventilators according to the weather; but avoid a close atmosphere, especially at night, which would have the effect of inducing lateral growths that must be restrained, keeping the laterals and all late growths well in hand, and seek complete rest by keeping the house cool and dry. A drier condition of the border is also desirable, but it is not advisable to allow the soil to become parched and cracked, which will not occur if the mulching has been attended to, or the surface kept loose. The outside borders, which are great mistakes in early forcing, may be covered with dry bracken or litter, and in case of heavy rains with tarpaulin.

*Vines in Pots for Early Forcing.*—Those intended for fruiting next season should by this time have completed their growth, especially those required for very early work, which should have no more water than will prevent the foliage from becoming limp, and they should be exposed to all the light and sun possible, so as to thoroughly ripen the wood and buds. Keep the Vines free from insects, as it is important that the leaves perform their functions to the last. After the wood becomes brown and hard the Vines may be stood in front of a wall with a south aspect, securing the canes to the wall to prevent the foliage being damaged by wind.

*Mixed Houses.*—In early forcing it is hardly possible to escape attacks of red spider on Vines; more especially is this the case when the Grapes are kept for any length of time upon the Vines after they are ripe. On account of this liability to red spider and the disastrous effect loss of foliage has on the succeeding year's crop we do not advise large houses with a number of varieties of Vines for forcing, but houses only of such size as will admit of a supply of Grapes for the establishment for a period of not more than six to eight weeks, and the shorter the time the better for the health of the Vines. The dry warm air essential to the ripening of early kinds will cause red spider to increase on the foliage of the Muscats and other late sorts before they are ripe. This is most disastrous to the present and next year's crop of Grapes. Instead of having a mixed collection, that would afford a supply of

Grapes from May to August inclusive, we would divide the house into three compartments, so that the respective kinds may have secured to them their essential conditions. In case of an attack of red spider paint the hot-water pipes with a mixture of lime and sulphur, heating them to 170°, at which point sulphur vapourises, and keep hot about an hour, having the house, closed, after which allow to fall to the ordinary heat. Care must be taken not to overdo the painting of the pipes with the sulphur, or it will spoil such tender skinned Frontignans and Muscats, it often causing brown spots upon the skins, and imparts a purple hue to white Grapes; therefore sulphur applied to heated surfaces must be done very carefully.

*Muscats Ripening.*—These require time and assistance from fire heat, so as to insure a night temperature of 70° to 75°, 85° to 90° by day, with abundance of air. They also require a rather dry warm atmosphere, for under no other conditions will they attain to that rich golden hue characteristic of their inapproachable vinous flavour. Muscats require very plentiful supplies of water when swelling and in the early stages of finishing their fruit. They can hardly be overdone with water at the roots after the leaves are full-sized until the Grapes are well advanced in ripening, the border having thorough drainage; therefore, attend well to the watering of inside borders, and outside also in dry weather. Too much atmospheric moisture, however, is fatal to Muscats when ripening, causing them to spot; therefore, keep a gentle warmth in the pipes, and admit a little air constantly to prevent the deposition of moisture on the berries, surfacing the borders inside, after a final watering, with a few inches thickness of dry material.

*Scalding.*—This season Vines have scorched leaves and scalded Grapes to a greater extent than ordinary, which usually prevails where the panes of glass are large and ventilation inadequate; but it occurs often through neglect of early ventilation and a gentle heat in the pipes, so as to maintain a buoyant atmosphere. Various causes have been assigned to scalding, but there is no question that it is accelerated by the same conditions that cause the foliage to scorch. Both can be avoided by careful attention to the temperature and ventilation. Air should be admitted rather freely, especially in the early part of the day, with a little at night and a genial warmth in the pipes, so as to maintain a temperature of about 70° artificially. It is most prevalent on Lady Downe's, and in lesser degree Muscats; but Hamburgs will scald especially when the Grapes are exposed to the fierce rays of powerful sun after a period of dull cold weather, and always occurs at the close of the stoning period just before (a fortnight to three weeks) the Grapes change colour for ripening. A slight shade is advantageous at this period and during the early stages of ripening in houses with large panes of glass, particularly for Muscats, a double thickness of herring nets drawn over the roof-lights being of great service in breaking the fierce rays of the sun from mid-June to the latter part of July or August, according to time of the Grapes finish stoning. Some vineries are the better for a slight shade during the hot summer months. This applies only to those with large panes of glass and clear.

*Shanking.*—This may be due to suspended root action at the critical period of the Grapes ripening. To avoid it properly made borders, or soil of suitable staple, with efficient drainage and well-managed Vines are essential. The foliage must be fully exposed to light, allowing no more growths than can have space for development without crowding, and at no time seeking to encourage root action by a thicket of growth, which must sooner or later be removed in quantity, and give a check, accelerating the failure of supplies when most needed; but contrariwise, keeping as much foliage as can have due exposure and no more in a healthy state, so that the supplies of nutriment may be properly maintained. Vines prone to shank should be given time, avoiding sudden fluctuations of temperature, paying particular attention to the ventilation, thereby securing a steady supply of nutriment for the formation of starch and the storing of chlorophyll, so that at the proper time they may be converted respectively into sugar and the purple-black or golden-amber of the Grapes. This securement can only be effected by judicious ventilation in the early stages of development, not keeping the air too moist, so as to insure firm textured foliage, sturdy short-jointed wood. The young growths must be kept well regulated, adopting the extension rather than the restrictive system where there is room for it without crowding, keeping all gross laterals stopped so as to cause an equal flow of sap throughout the Vines, and this will do much to prevent the liability to shank. The great cause, however, of shanking is unsuitable border material, its effectiveness through inefficient drainage, or roots deep in staple more suitable than the surface. Heavy coverings of manure in autumn or winter allowed to become sappy, soddening and souring the soil, and then exposing the soil to the heat and drought, are certain means of securing shanked Grapes. Souring the soil with liquid manure whilst it is saturated and cold destroys what few fibrelets remain, and the Grapes shank; in fact, the evil is a result of errors in treatment.

#### PLANT HOUSES.

*Hydrangeas.*—Plants that were assisted to make their growth indoors will have produced abundance of cuttings suitable for striking. The sooner the cuttings are rooted after the shoots have ceased to lengthen out the better. The softer the wood the quicker they root. It is not necessary to cut the shoots to a joint, but two good leaves should be left at the base of each cutting. The cuttings should be inserted singly in 2½ or 3-inch pots filled with loam, manure, and sand, a little sand being placed in the centre of the pot. They root quickly under handlights in a vinery or any structure that can be kept moderately close. After insertion give a good soaking of water, and keep the cuttings close, shaded, and moist, until they are rooted, then gradually harden and



expose the plants to full sunshine, and finally stand them outside to ripen and swell their buds.

*Calceolarias and Cinerarias.*—As soon as the former are large enough prick them out 1 inch apart in pans or boxes, and when they cover the space allowed them they should be placed in small pots. Grow the plants in a frame with a northern aspect where the base can be kept cool and moist. Even in this position it is necessary to use light shade occasionally. Do not allow Cinerarias to become root-bound before they are transferred into larger pots. A check from this cause will practically destroy them. Transplant the latest seedlings and grow them with the Calceolarias.

*Mignonette.*—Standards should be placed in their flowering pots, and the trellis upon which they are to be trained placed to them. Grow them on in a frame where the pots can stand upon ashes and abundance of air be given. Apply water carefully, remove the flowers as they appear, and tie the shoots. A number of 6-inch pots may be filled with soil and seed sown thinly over the surface. Place them in a frame, and shade until the seed has germinated. After being exposed to light and air subsequently grow them outside on a bed of ashes. Care is needed that they do not suffer by insufficient water.

*Celosias.*—Place all that are ready into 5-inch pots, and stand the plants in cold frames. Keep the frames close for a few days and then admit air freely. Under cool airy treatment they grow sturdily, and are not troubled with insects. Plants that are hurried forward in heat seldom do much good, and even if they produce fair plumes they are very liable to damp off at the base as soon as they are placed in houses with a lower temperature. Those that are not ready for their flowering pots should be grown cool and placed in them when well rooted. We generally grow the latest plants in 4-inch pots, and find them useful.

*Pelargoniums.*—The main batch of cuttings of French and Fancy varieties should now be inserted. They will be found to root quicker and better if dibbled into a sunny border outside than if placed in pots and stood in frames. The firmer the cuttings are at the base the better. Those who have small plants on hand should pinch them well back and allow them to break outside, and then shift them into larger pots. These are ready for pinching again in September, and make capital plants for early flowering.

*Zonals.*—Those for winter flowering that are filling their pots with roots should have artificial manure applied to the surface occasionally. Pinch free growing shoots, and remove all flower trusses. Those still in 3-inch pots may be placed into 5 and 6-inch without delay and stood in a sunny place outside. A good number of cuttings may be inserted singly in pots, standing them outside, or even dibbling them into a border, and potting them after they are rooted. These if well cared for throughout the winter will flower admirably early in spring.

*Ivy-leaved Kinds.*—These are most useful for producing flowers for cutting. A number of cuttings should be inserted singly in small pots for flowering next season. Those intended for autumn and winter should be stood in the sun outside to ripen and harden.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### THE WEATHER.

AFTER fully a fortnight of thunderstorms and rain, with a low barometer, the weather is fine but cool. As yet the bees have stored very little honey. Young queens remain sterile, and hives generally are further from swarming than they were in May.

#### YOUNG QUEENS.

Within the past two months upwards of a hundred hives have come under my notice that had old queens, and upwards of 90 per cent. of these are dead. There are several phases of the subject of hives and old queens which should be considered. The first is, the queen regnant may be deposed or die in early spring. If eggs are present a young queen follows, but is almost sure to become a confirmed drone breeder, and not unfrequently the old and young queen are tolerated in the same hive. A second phase is, the queen regnant may be deposed or die later in the year, and the hive, through a paucity of bees, may only be serviceable for the Heather or for the following year. A third phase is, and it is not the least frequent during the month of May or June, young queens are brought forward, and the hives, whether crowded or not, may, and they frequently do, send off a swarm, sometimes with the old queen, sometimes with a young one, and sometimes with both together; but invariably the old queen is killed unless when she comes by herself, and in that case she is of little or no use.

These phases comprehended will give a proper idea of what takes place, and the reason of hives that were active becoming suddenly inactive, much to the surprise of many bee-keepers of supposed experience. The decline of the hive is either attributed to the loss or decline of the queen. A queen is procured, the supposed reigning queen is deposed, and the alien queen introduced forthwith, but the hive progresses not. The reason is that in many cases either two queens are in the hive at the same time, or royal cells are in an advanced state. Under these circumstances bees will not accept an alien queen. When beginners are uncertain what to do they should test the hive by putting in comb containing eggs, and if queenless the bees will raise queen cells; if they do not, then it is evident a fertile worker or imperfect queen is present, and it is never safe to introduce a queen to a hive that refuses to raise queen cells, nor while they have an egg or larvæ.

#### CONTROLLING INCREASE.

Never attempt to return swarms. Eight days after the issue of the first swarm is the proper time to excise all royal cells that are not desired, or to divide into nuclei. Where the latter are not wanted, and on the day of the issue of the first swarm, remove the old stock a good distance, and place the swarm on its site. Now bring the old stock close to the swarm, examine every frame, destroy all queen cells, and force as many of the flying bees as possible on to the swarm, keeping the very young ones upon the combs, because these youthful bees will be of no use for some time as outdoor workers, and the swarm will have no use for them for some days within doors. Next take the combs with the young bees adhering and divide them amongst the other hives, adding more space if necessary, or making the brood combs take the place of honey-laden combs. If the foregoing advice is taken along with some forethought the key to the most sensible solution to the controlling of swarming will be found. But always bear in mind that swarming, unless by young queens and extra breeding space, cannot be prevented.—A LANARKSHIRE BEE-KEEPER.

#### QUEEN EXCLUDER ZINC.

It is difficult to understand how any person can make such statements as those made by "A Lanarkshire Bee-keeper" on pages 32-33, in last week's number of your paper, and which can so easily be exposed.

I was present as a visitor at the Caledonian Apiarian Society Show at Glasgow in 1875, and at Edinburgh as an exhibitor in 1877. On neither of these occasions did I act as a judge. He says, "At the first Caledonian Apiarian Society's Show there were five Judges. One, the late Mr. James Anderson, was so displeased with the opinions of the others that he left, Mr. Mark Walker also dissenting, leaving Messrs. Hooker, Abbott, and McLauchlan\* to decide, with the result that with one exception they awarded the first prize in every class to pure sugar. I entered a protest against the exhibitors, and in every instance an apology was made." Fortunately the names of the Judges who acted at the Show (the first), held the 8th September, 1875, at Glasgow, are recorded in the "British Bee Journal" of October 1st, 1875, page 119, as follows: "The Judges were Messrs. J. Lauchland of Kilmarnock, James Anderson of Dalry, Alex. Shearer of Yester Gardens, and M. Walker of Glasgow, with the Editor of 'The British Bee Journal' as referee in case of a difficulty in coming to a decision." This shows his statement as to my being one of the Judges to be incorrect.

As to any disagreement having taken place among the Judges I know nothing, but as Mr. James Anderson was an exhibitor who obtained the first prize for the largest and best display of honeycomb he would not be likely to be "displeased," and quarrel "with the opinions of the others." Is it not more likely that he, being an exhibitor, was not allowed to act as one of the Judges, as is always understood? The following are those who took first prizes for honey at the Show:—James Anderson, W. Dick (Kilbirnie), D. Wallace of Rothesay, A. Montgomerie of Kilmaurs, David Anderson of Dalry, and D. Paterson of Struan. "Lanarkshire Bee-keeper" says that only one out of these six exhibitors staged pure honey—not very complimentary to his own countrymen; but if this was so, which I do not believe, I was not one of the Judges who did not know sugar from honey. It is astonishing what excuses disappointed competitors will make.

"Lanarkshire" goes on to say, "The hives came next. Mr. Abbott on this occasion was assisted by Mr. Hooker, and this is the point I wish to bring out." This is not true. I did not assist Mr. Abbott, neither do I believe Mr. Abbott awarded himself the first prize. He is away from home in Ireland, and has probably not seen the statement. He,



("Lanarkshire,") speaking of the next hive class, "The first prize was awarded to an English one. Both instances were decided by English Judges, Messrs. Hooker and Abbott." This is incorrect; I never acted as a judge at any exhibition in Scotland. I was not in Scotland the next year, 1876, and personally know nothing about that Show. In the report in the "British Bee Journal," page 102, vol. iv., for that year the following names are given:—"The Judges for *honey* were Messrs. Abbott, Shearer, Saunders, Findlay, and Anderson, and owing to the great beauty of the produce brought to the Show they had great difficulty in deciding the prizetakers. *The hives and appliances* were judged by Messrs. Shearer and Findlay, assisted by the "Renfrewshire Bee-keeper." The names of the Judges are not given in the report of the 1877 Show. "Lanarkshire" says, "The principal Judge was Mr. Symington, the peasemeal man." This is another random statement, for Mr. Symington was a manufacturer of quite a different article and not "the peasemeal man."

"As for excluder zinc being an improvement on supering the idea is amusing." "The Stewarton system has not been improved upon." "It is a well-known fact that queen excluder zinc has as yet been a failure, &c., &c." These are statements not borne out by facts. All the largest honey producers in England and America use queen excluder zinc, and would not do without it on any account. I could give a long list of names of these if you would insert them. When I tell you that Messrs. Harvey have sold between one and two tons of the British pattern advertised in your paper this season, you will see there are a good many who think differently to "A Lanarkshire Bee-keeper." Does he think, because a thing is capable of improvement, it is a failure? Was the first locomotive a failure because those at present in use are great improvements on it? He goes on to say:—"The best way of using excluder zinc is as I described it six or seven years ago and which has been copied elsewhere, the plan of cutting it in narrow strips and running it between the bars." At what date did this appear in the *Journal of Horticulture*? "I am pretty certain that if excluder zinc was used in our hives at the Heather there would be few supers. The bees swell to such an extent, &c." Had "Lanarkshire" used excluder he would know for certain that bees filled whether in a honey glut of either Clover or Heather, they have no difficulty in passing through the same.

There never has been a *hive* accepted as standard by the British Bee-keepers' Association. After a good many meetings a *frame* of a certain size was adopted and has not since been altered. I am at a loss to understand what is meant by the following statement:—"At my suggestion, but not till then, was an effort made to rectify the error indicated." No alteration has been made in the size of the standard frame, and there are not two sizes of frame. This is another random statement, and is incorrect. I am asked to explain why "they have abandoned their original styles of hives and are adapting ours, which have been in use so long, although not prizetakers." I do not understand the question. If by "they" he means the Association, I can only repeat "they" never had any particular style of hive. Neither do I understand the kind of hive referred to as "ours," which certainly has not been "adopted."

It is easy to say I did this or invented that so many years ago, but statements without dates or reference are not worth much. Why not say when and where mentioned, that others may judge for themselves if this was so and if the invention bears any similarity?—JOHN M. HOOKER, 9, Beaufort Gardens, Lewisham, S.E.

[\*The name of Mr. McLauchlan published last week was a misprint, and ought to have been Lauchland. Mr. Hooker has a right to this rejoinder, and though he has not attempted to justify his allegation of "A Lanarkshire Bee-keeper" claiming credit for inventions and improvements not his own, we do not wish for any reply to this communication, nor any more disputations between our able correspondents.]



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Fruit and Vegetable Farm (H. N.).**—We are obliged by your postcard. We know the farm very well, and under capable manage-

ment the enterprise ought to prove successful. Further experience is needed for the development of facts in which the public would be interested.

**Mignonette (Anxious).**—You cannot grow the plants by dates and measurements, no matter by whom given, but you must exercise your intelligence in carrying out instructions, not permitting the plants to be root-bound before shifting them, nor allowing the growths to get hard prematurely. Your letter shall be submitted to the writer of the excellent article referred to.

**Making Cider (A. B., India).**—A practical illustrated handbook on making cider, by Mr. J. M. Trowbridge, is published by the Orange Judd Company, 52 and 54, Lafayette Place, New York, from whom you can obtain all the particulars you need respecting the appliances. Refreshing and wholesome drinks can be made from different kinds of fruits, including those you mention. A standing rule of this office forbids our answering your third question through these columns. Your first was answered on page 12, our issue of the 2nd inst.

**Tomatoes not Setting (F. R.).**—The plants are much too hot, close, and moist, as is evidenced by the Melons being "attacked by canker as soon as planted, at least they damp off." The only remedy is more air and a not less genial condition of the atmosphere. Canker is induced by the stagnation of the plant tissues and the deposition and continued presence of moisture on the stem, and non-setting of Tomatoes is a result of confined air, ill-formation and development of the flowers, the condensation of moisture on and consequent inertness of the fruitifying organs. Admit more air, a little constantly in dull weather and at night, and restrict the roots so as to insure the solidification of the growth as made, which is essential to fruitfulness.

**Summer Pruning Plum Trees (Kent).**—1, The spurs of the wall tree ought to be cut back now so as to admit light and air to the fruit, but the pruning should not be done excessively, or it may have the effect of inducing late growth and prevent the maturing of the wood and buds. Judiciously thinning and moderately shortening the long growth would be preferable to close pruning; this would insure the fruit ripening as well as the development of the buds for next year's bearing, and the solidification of the wood so essential to health and fruitfulness. 2, You do not say whether the standard tree produces blossom or not. If weakly a judicious thinning of the head would be advisable, and there is no better time than the present, removing the oldest and weakest growth or where most crowded. Many trees fail in producing fruit simply because the buds are eaten by bullfinches or the blossoms destroyed by frost.

**Figs Ripening Unevenly (Pericles).**—This is occasioned by the "fit and start" formation of the flesh, some parts having the juices highly elaborated and assimilated, whilst others are badly digested and the parts are soft and watery. The cause of decay is usually due to condensation of moisture on the fruit whilst ripening. Free ventilation in bright weather is an absolute necessity, and a circulation of warm, rather dry air constantly in dull weather when the fruit has passed the flowering stage is essential; also when the crop is ripening air must be admitted so as to prevent the condensation of moisture on the fruit. Admit a little air continuously, so as to insure a constant circulation, which, when the Figs are ripening, should be warm and dry, and the fruits will not probably decay; but that is contingent on their not being affected with "spot," which often infests Figs in the early ripening stages.

**Making Mushroom Ketchup (F. L. B.).**—We give you a choice of methods, and you can, of course if you wish, try them all, and in future adhere to the one you like best. (1) Take 4 lbs. of Mushrooms, and the same of common salt; sprinkle the salt over the Mushrooms, and when the juice is drawn out add 8 ozs. of pimento and 1 oz. of cloves. Boil these for a short time, and press out the liquor; that which remains may be treated again with salt and water for an inferior kind. (2) Take the large flaps of Mushrooms gathered when dry, and bruise them; put some at the bottom of an earthen pan, and strew salt over them; then put on another layer of Mushrooms, then salt, and so on till you have sufficient. Let them stand a day or two, stirring them every day; strain the liquor through a flannel bag, and to every gallon of liquor add one quart of red wine; mace, cloves, allspice, of each half an ounce, with a race or two of cut ginger. If not salt enough add a little more. Boil it till one quart is wasted, strain it into a pan, and let it get cold. Pour it from the settlings, bottle it, and cork it tightly. (3) Take care that the Mushrooms are of the right sort and fresh gathered. Full-grown flaps are the best. Put a layer of these at the bottom of a deep earthen pan, and sprinkle them with salt; then add another layer of Mushrooms, with more salt, and so on alternately. Let them remain two or three hours, by which time the salt will have penetrated the Mushrooms, and rendered them easy to break; then pound them in a mortar, or mash them well with your hands, and let them remain two days, during which stir them up and mash them well; then pour them into a stone jar, and to every quart put 1 oz. of whole black pepper; stop the jar closely, set it in a stewpanful of boiling water, and keep it boiling two hours. On taking out the jar pour the juice clear from the sediment through a hair sieve into a clean stewpan, and let it boil gently half an hour; skim it well, and pour it into a clean jar or jug; cover it closely, let it stand in a cool place till the next day, then decant it off as gently as possible through a tamis or thick flannel bag till it is perfectly fine, and add a table-spoonful of good brandy to each pint. Now let it stand again, when a fresh sediment will be deposited, from which the ketchup



must be gently poured off into bottles which have been previously washed with brandy or other ardent spirit. Kept closely corked and in a cool place it will remain good a long time. Examine it, however, occasionally by placing a strong light behind the neck of the bottle, and if any skin appears upon it boil it up again with a few peppercorns. This is called double ketchup, and a table-spoonful of it will impart the full flavour of Mushroom to half a pint of sauce.

**Tomato Fruits Diseased (W. H. G.).**—The decay of the fruits you have sent has been caused by a fungus, and this is what Mr. W. G. Smith has said and shown in reference to attacks of this nature:—"The fungus most worthy of attention when growing upon Tomatoes is the destructive parasite known as *Cladosporium lycopersiei*. This fungus causes the decay of the fruit. It begins with a minute black spot, which surrounds the small decaying style. The black spot gradually increases in size by new circles of growth, one beyond another in the style of fairy rings. The fungus growth at the same time flattens the apex of the fruit, till at last the whole substance is blackened and entirely destroyed by the *Cladosporium*. The fungus spreads from the leaves (as I believe), or from one fruit to another, till at last leaves, stems, and fruits are all alike rotten. A small illustration is here given (fig. 9) natural size, of a half-destroyed fruit, and a view of the assailing fungus which has been named *Cladosporium lycopersiei*, enlarged from the microscope 500 diameters. The brown spores of this *Cladosporium* are often produced in such enormous numbers upon both sides of the foliage that they fly from the leaves in millions. If the Tomato foliage is briskly touched, a cloud of spores will taint the air and be distinctly perceptible in the mouth and lungs if they are inhaled. Most of the Tomato fungi are in their earlier stages quite superficial, so that if remedies are applied in good time recovery seems to be possible. Many recipes and suggestions have been printed of late in the *Journal of Horticulture*." All such fruits as you have sent should be gathered and burned, the house kept warm, dry, and well ventilated, and carbonate of

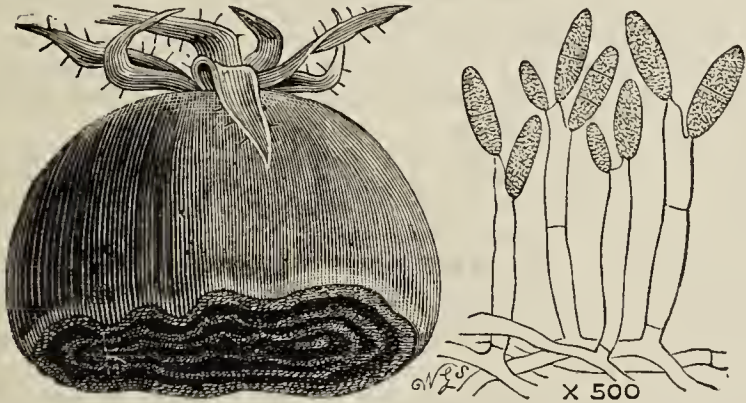


FIG. 9.

DISEASE OF TOMATOES AS CAUSED BY *CLADOSPORIUM LYCOPERSICII*.

copper remedy, mentioned on page 35 last week, may be tried. But the fungus ought to have been attacked sooner, and before it became so firmly established. See also page 21 of the same issue.

**Peach Tree Leaves and Fruit Spotted (A Constant Reader).**—The leaves are not only spotted, but have small circular holes in them as if made by a weevil. To find weevils spread a white cloth or sheet on the ground beneath the tree in the daytime, and at night approach the tree very gently with a lantern kept dark, and give the branches a good shaking, then turn on the light, and if the causes of the small holes are weevils they will be found to have fallen on the cloth, and should be captured and destroyed. This repeated a few evenings will rid the tree of that plague. The brown spots may have been caused by the sun acting powerfully on drops of water caused by syringing or a leaky roof. Fumigating the house whilst the leaves were wet or an overdose of tobacco smoke would produce the spots. The leaves and fruits are not infrequently spotted when infested with gum disease. The best thing you can do is to cut away all the gummed parts to clean growth a little below the affection and burn them. Any gum on older growth should be wiped off and burned; but growth of the current year, and even last year's wood where it can be spared, should be cut away; then sprinkle the tree lightly with tepid water, and dust it whilst damp with "anti-blight." Do not syringe the tree for some time, or not at all unless necessary for the prevention or spread of red spider, &c., and then as little as possible. Admit air freely, especially in the early part of the day, and a little constantly at night. Dress the border with superphosphate two parts, muriate of potash one part, mix, and apply at the rate of 2 ozs. per square yard, repeating in about six weeks, and wash-in lightly. Water no more than is necessary to keep the foliage from becoming limp. In autumn, when the leaves give indication of falling, lift the tree carefully and replant, preserving all the small roots possible. Add to the loam a fourth to a sixth of old mortar rubbish according to texture, making the soil firm under, about, and over the roots.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes.

Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*C. P.*)—1, *Lycaste Deppei*; 2, *Asplenium bulbiferum*; 3, *Acalypha Macfarleana*; 4, *Insufficient*, apparently a *Carex*; 5, Not received; 6, *Heuchera americana*. The specimens were well packed in grass, and arrived in good condition. The *Geraniums* you mention are not florists' flowers, but you could obtain them from most of the large nurserymen or florists. (*Iris*).—It is one of the numerous varietal forms of the Spanish *Iris*, and not a species. Possibly you might obtain the name from the vendor of the corms. See our notice. (*H.D.*)—Perhaps *Anthericum variegatum*; but why did you top the flower spike? The *Pinus* shall have attention. It opens a point of interest.

**Bees in a Straw Hive (W. Stephens).**—As we do not know how you mean to keep your bees we cannot advise to our mind, and probably not to your satisfaction. Your bees, which appear to have been a prime swarm, will by this time have the hive well filled with combs containing brood and honey, should, if the weather keep fine, have a small super. Remove this when full, and see that the hive is of proper weight to stand through the winter. Cover up, and protect from wet. Have a wooden floor for it, and it will be better if it be a ventilating one. But if the queen is an old one, so there is a risk of the hive failing next spring just at the time your expectations are high, a young queen can be easily joined after the old one has been deposed by using the usual and necessary precautions. If disposed to use frame hives you ought to provide yourself with at least three to be in readiness when the bees swarm next year, or straw hives if so disposed to keep them in them. You have the alternative of driving the bees from the present hive after they have gathered all the honey they can, transferring the bees into a frame hive, and proceed as advised above. A postcard does not enable you to explain matters sufficiently.

#### COVENT GARDEN MARKET.—JULY 15TH.

MARKET now very active, outdoor fruit making an appearance, although light at present.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Tasmanian, case	6	0	to	14	0	Oranges, per 100 .. ..	4	0	to 9 0
Cherries, $\frac{1}{2}$ -sieve .. ..	6	0	10	0	Peaches, per doz... ..	3	0	1 0	0
Grapes, per lb. ....	1	6	3	0	St. Michael Pines, each..	3	0	3	0
Lemons, case .. ..	15	0	20	0	Strawberries, per lb. ..	0	2	0	8

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Asparagus, per bundle ..	0	0	to	0	0	Mushrooms, punnet ..	0	8	to	0	10
Beans, Kidney, per lb. ..	0	9	1	0	Mustard & Cress, punnet	0	2	0	0	0	
Beet, Red, dozen .. ..	1	0	0	0	Onions, bushel. . . .	5	0	6	6		
Cabbage, dozen .. ..	3	0	0	0	Parsley, dozen bunches	2	0	3	0		
Carrots, bunch .. ..	0	4	0	0	Parsnips, dozen .. ..	1	0	0	0		
Cauliflowers, dozen..	3	0	6	0	Potatoes, per cwt. . .	3	0	4	0		
Celery, bundle .. ..	1	0	1	8	Rhubarb, bundle .. ..	0	2	0	3		
Coleworts, doz. bunches	2	0	4	0	Salsafy, bundle .. ..	1	0	1	6		
Cucumbers, doz. .. ..	1	4	4	0	Scorzonera, bundle ..	1	6	0	0		
Endive, dozen .. ..	1	3	1	6	Shallots, per lb. ..	0	3	0	0		
Herbs, bunch .. ..	0	2	0	0	Spinach, bushel .. ..	5	0	6	0		
Leeks, bunch .. ..	0	2	0	0	Tomatoes, per lb. ..	0	6	0	8		
Lettuce, dozen .. ..	1	0	1	8	Turnips, bunch .. ..	0	0	0	4		

#### AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms very good, rather plentiful.

	s.	d.	s.	d.		s.	d.	s.	d.	
Arum Lilies, 12 blooms ..	2	0	to	4	0	Mignonette, 12 bunches..	2	0	to 6	0
Bouvardias, bunch ..	0	6	1	0	Mimosa (French), bunch	1	3	1	6	
Campanula, doz. bunches	3	0	6	0	Myosotis, dozen bunches	2	0	4	0	
Carnations, 12 blooms ..	1	0	2	0	Pansies, dozen bunches .	1	0	2	0	
Carnations, doz. bunches	3	0	6	0	Pelargoniums, 12 bunches	4	0	9	0	
Coriander, doz. bunches	2	0	4	0	„ scarlet, 12 bnchs	3	0	6	0	
Eschscholtzia, doz. bchs.	2	0	3	0	Pink (various) doz. bchs.	2	0	4	0	
Eucharis, dozen .. ..	3	0	6	0	Primula(double) 12 sprays	0	6	1	0	
Gardenias, per doz. ..	1	6	4	0	Pyrethrum, doz. bunches	2	0	6	0	
Gladiolus (white), dozen	4	0	8	0	Ranunculus, doz. bnchs.	2	0	4	0	
„ bunches .. ..	4	0	8	0	Roses (indoor), dozen ..	0	6	1	6	
Iris (various) doz. bchs.	6	0	12	0	„ (mixed), doz bnchs.	2	0	6	0	
Lapageria, 12 blooms ..	2	0	4	0	„ Red (English) per	1	0	2	0	
Lilium longiflorum, 12	3	0	4	0	„ dozen blooms ..	1	0	2	0	
„ blooms .. ..	3	0	4	0	„ Tea, white, dozen..	1	0	2	0	
Lilium (various) dozen	1	0	3	0	„ Yellow, dozen ..	2	0	6	0	
„ blooms .. ..	1	0	3	0	Spiraea, per bunch .. ..	0	6	0	9	
Maidenhair Fern, dozen	4	0	9	0	Sweet Peas, doz. bunches	2	0	4	0	
„ bunches .. ..	4	0	9	0	Sweet Sultan, doz. bnchs.	2	0	4	0	
Marguerites, 12 bunches	2	0	4	0	Tuberose, 12 blooms ..	0	4	0	9	

##### PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Aralia Sieboldi, dozen ..	6	0	to	18	0	Heliotrope, per doz. ..	4	0	to	8	0
Arbor Vita (golden) doz.	6	0	8	0	Hydrangeas, per doz. ..	9	0	12	0		
Begonias (various), doz.	6	0	13	0	Lilium longiflorum, doz.	18	0	50	0		
Calceolarias, per dozen ..	4	0	6	0	Lobelia, per doz. .. ..	8	0	6	0		
Campanula, various, doz.	6	0	12	0	Marguerite Daisy, dozen	6	0	12	0		
Coleus (various), per doz.	3	0	9	0	Mignonette, per dozen ..	8	0	6	0		
Dracæna terminalis, doz.	24	0	42	0	Musk, per doz. . . . .	2	0	4	0		
„ viridis, dozen ..	12	0	24	0	Myrtles, dozen . . . . .	6	0	12	0		
Erica, various, dozen ..	12	0	24	0	Palms, in var., each. . .	2	6	21	0		
Euonymus, var., dozen ..	6	0	18	0	Pelargoniums, per doz. ..	6	0	15	0		
Evergreens, in var., dozen	6	0	24	0	Pelargoniums, scarlet, doz	2	6	6	0		
Ferns, in variety, dozen. .	4	0	18	0	Saxifraga pyramidalis, per						
Ficus elastica, each. . . .	1	6	7	0	doz. . . . .	12	0	13	0		
Foliage plants, var., each	2	0	13	0	Spiræa, per doz. . . . .	8	0	12	0		
Fuchsia, per doz. . . . .	4	0	9	0	Stocks, per dozen . . . .	4	0	6	0		
Geraniums, Ivy, per doz.	4	0	6	0	Tropæolum, per dozen ..	3	0	6	0		





### TEMPORARY PASTURE.

FROM a really good field of "seeds" the crop of wholesome nutritious forage is often twice or three times more than that of permanent pasture, and the reason of this greater abundance of yield is obvious enough, for with land in good heart, and pasture consisting of the best strong growing Grasses, with a fair admixture of Clovers, heavy crops are practically a certainty. Perennial Rye Grass, Cocksfoot, Meadow Fescue, and Timothy are all remarkable for robust growth, and with them we should have White Clover and Alsike, with Perennial Red Clover; or on good mixed free or chalky soil, Sainfoin, Lucerne, and Tall Fescue.

The clearance of a heavy first crop is often immediately followed by a top-dressing of manure, which July rains wash down into the soil and ensure an almost equally heavy second crop. If the weather is showery as the first crop is cleared about 2 cwt. per acre of the mixed nitrogenous and mineral chemical manures answers admirably; so, too, does a dressing of sawdust or peat moss litter well saturated with urine. But the dressing must be a moderate one, and be used promptly, for some of the Grasses, notably Cocksfoot, send up a strong second growth at once. It should be understood clearly that such an application of manure is a bit of sharp practice upon which a beginner could hardly venture in safety. To do it really well and effectually experience and sound judgment are requisite, without which it may do harm; with it excellent results are possible. For example, chemical manure would not tell in hot dry weather, but in showery weather with the temperature of midsummer it would not only then induce growth of remarkable vigour, but the soil would be so rich in fertility that there would be no appreciable exhaustion by the vigorous second growth.

Very seldom indeed do we see crops of such vigour as we know to be possible, simply because the soil is so often in a state of incipient exhaustion. We must have sustained fertility of soil if we would have sustained vigour of growth. In saying this we do but repeat an oft-told tale, yet we would give greater emphasis to it if possible, because we know that the soil generally is not half so productive as it ought to be.

It is certain that the best plants of our temporary pastures repay us well for high culture. What is possible under such culture has been shown with Rye Grass and Maize, especially on sewage farms; and it is well known what magnificent crops of Sainfoin, Lucerne, Timothy, Cocksfoot, and Clover can be had without extraordinary pains. In the United States of America Timothy yields crops of marvellous abundance. So, too, does Cocksfoot in New Zealand; but then it has special culture, with the plants set far enough apart to admit of full development, and no one can form an idea of what that is who has only seen this Grass in an ordinary pasture. Take a young plant of Cocksfoot and plant it in your garden in really rich soil; suffer no other plants to crowd it or to rob the surrounding soil of fertility, and you will have so remarkable an object lesson as to set you longing for an acre of such growth. No objection can be justly taken to the coarse herbage of this Grass, as analysis has proved it to be as nutritious as any of the finer-growing Grasses.

We regret that farmers are not wont to test such things for themselves more than they do. What can possibly be more useful or interesting on a farm than a trial plot where manures, corn, forage, and roots can all be tried? The comparative value of all crops would then be known, and the practice would be better, the

results better, and far more certain and profitable than is possible without such tests.

Now is the time to look carefully over the farm, and to consider well if the crops are really good. If not the cause should be ascertained, and the remedy applied in due course. The drought of last autumn told severely upon those dairy farmers having nothing but poor permanent pasture for their stock. What a boon would a few acres of rich temporary pasture have proved to them then! But where the whole of the farm is in permanent pasture the farmer is very much the sport of seasons, for he has nothing else to turn to. Well would it be for him if even a few acres only of his farm were available for special treatment, and some of those special crops which we have indicated in this article.

### WORK ON THE HOME FARM.

A case of stupid blundering which caused the loss of four fine lambs must be noticed this week. A flock of ewes and lambs much infested with ticks were dipped in Cooper's mixture on July 3rd, and on the morning of the 5th the four lambs were found dead, and others were evidently suffering from poisoning, but they did not die. Our advice was asked, and we found that the lambs had actually been allowed to run with and be suckled by the ewes immediately after the dipping. It was obvious that they imbibed enough of the dip poison from the ewe's udders to kill four of them, and to seriously affect several more. In future this bit of dear-bought experience will cause the owner of that flock either to wean the lambs before dipping—as should always be done—or to keep them apart from the ewes after dipping till there is no risk of poisoning. By all means dip all sheep and lambs for summer, but do take ordinary precaution against the poison. Our plan is to dip off the pasture, and to keep the sheep off it till they are fairly dry. As the dipping is done two or three weeks after the shearing, the short wool becomes dry enough in a few hours to make all safe; but to dip the sheep and turn them out at once upon the pasture they feed upon is to incur serious risk of poisoning.

The unsettled state of the weather has interfered seriously with the haymaking. All that grass mown for hay, whether in cocks or swathes, has been made into hay as fast as was possible, but more of the unmown grass will be used for ensilage than would have been the case had we had settled weather. Where hay must be had it must be got into cocks a few hours after the mowing, and only shaken out when there is fair promise of a few hours of fine weather. Of course the haymaking is more expensive in this way, but there is no other way in showery weather, for hay that is turned a few times and then exposed to rain loses quality very fast, and is never so nutritious as well-made hay. Great care must also be taken that hay which has been in cocks is shaken out and thoroughly dried before the carting, or it will become musty in the rick.

**SPRATT'S PATENT.**—We are requested to say that our readers, before leaving for their holidays, should entrust their canine pets as boarders to Spratt's Patent Dog Sanatorium. The Sanatorium is on a healthy site near Mitcham. The kennels are large and spacious. The dogs are well groomed and exercised for several hours daily, and, above all, are not caged or chained. Mr. Sewell, the canine specialist and vet., supervises all. Write, Spratt's Patent, Limited, Bermondsey, London, for particulars.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

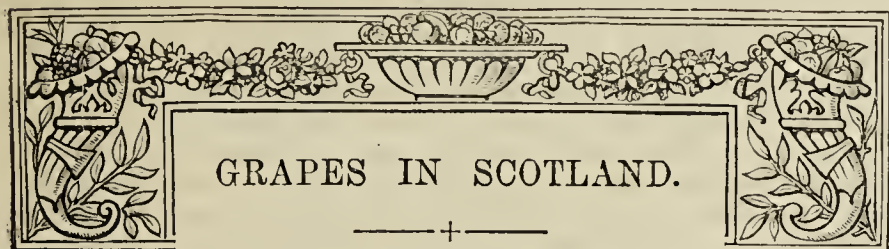
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.					Rain
1891. July.		Barometer at 32° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
			Dry.	Wet.			Max.	Min.	In sun.	On grass		
		Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
Sunday .....		5	30.035	59.5	54.4	S.E.	61.0	65.1	50.2	94.5	45.8	0.010
Monday .....		6	29.799	61.2	58.8	S.	61.3	69.9	58.9	111.0	56.3	0.193
Tuesday ....		7	29.697	59.4	52.9	S.W.	59.9	65.3	52.1	114.9	48.0	0.334
Wednesday ..		8	29.711	59.7	55.1	N.W.	59.0	70.6	51.9	113.7	51.8	0.759
Thursday ....		9	30.005	62.1	56.1	N.	59.0	69.1	52.0	122.9	47.8	—
Friday .....		10	30.156	56.9	53.0	W.	59.6	71.6	50.2	116.6	45.4	—
Saturday ....		11	30.052	63.1	55.9	W.	60.1	72.8	52.6	122.3	48.2	—
			29.922	60.3	55.3		59.8	69.2	52.6	114.4	49.0	1.301

### REMARKS.

5th.—Generally overcast, with frequent spots of rain in afternoon.  
6th.—Dull and drizzly early; breezy day, with occasional sunshine; thunderstorm at 4 P.M., and bright evening.  
7th.—Generally overcast, with frequent heavy showers, but occasional bright sunshine.  
8th.—Generally overcast morning, with thunder and spots of rain at 11; thunderstorm with heavy rain from 3 to 5 P.M.; fair evening.  
9th.—Fine, and generally bright.  
10th.—Fine, but frequently cloudy.  
11th.—Bright and warm.  
A generally dull week, and on the 8th the only heavy thunderstorm which has occurred this year.—G. J. SYMONS.





BEING a lover of home and home surroundings, it has been only after long consideration that I could determine to have a tour of inspection amongst those who, like myself, are engaged in, and who also love Grape growing. With an early start to secure the 6.15 A.M. train at Newcastle, eight miles distant, I secured a tourist's ticket for 22s. 6d., which permitted me to travel to Edinburgh and Glasgow *via* Galashiels, and also gave the privilege of stopping at all intermediate stations. Having had several times repeated a very kind invitation from Messrs. W. Thomson & Sons, of the world renowned Tweed Vineyards, Clovenfords, I chose that station of industry and rare excellence for my first call. On my arrival, much to my regret, I learned that Mr. Thomson, sen., was from home, and thus was frustrated for the time being my long-cherished anticipation to have a conversation with one of our leading authorities, and with one who has a great claim to be termed the father of Grape growers. But I soon found that with the same confidence that I had left home Mr. Thomson had also left those in charge who possessed all the qualifications necessary to keep a horticultural establishment moving in the right groove that both deserves, and, as a rule, secures compensation. Enthusiasts in their profession, with characteristic intelligence, Mr. Thomson's two sons speedily led the way to a discussion on all the knotty problems associated with Grape growing, and how best to secure excellence in every branch of fruit culture.

The Tweed Vineyards are surrounded by those majestic hills that are to be seen nearly everywhere in Scotland, so renowned for purity of air, and which contributes so largely to the golden colour of those beautiful Muscats you see so frequently staged at Edinburgh. My first look into a large Muscat house was certainly a surprise; bunches, nearly ripe, were simply everywhere, from end to end, in a very long house. The sight was that of a solid mass of Grapes. Situation, intelligence, and Thomson's manure evidently produce great results in Grape growing. These lengthy spans, too, that I had so frequently read about, and also verbally heard of, I now, though at an early stage, beheld in all their magnificence with my own eyes. In addition to Muscats there were Dukes, Gros Colmans, and Lady Downe's, in full health and vigour, and as house after house was reached I recognised that success had already stamped my tour. I had seen my own calling in all its perfection and also more extensively carried out than I had ever previously observed Grape growing.

The Messrs. Thomson kindly supplying me with a rather lengthy list of other horticultural establishments well worth visiting, I next set off to Edinburgh, intending, with that magnificent city for a focus, and, armed with my "Tourist," to perambulate hither and thither during the few days at my disposal. Next morning with my son—who knows Edinburgh well, he being a University student—as my guide, an early start was made, and, before breakfast many places of much interest were visited. Newbattle Abbey and Melville Castle being handy, and the gardeners of both these places being well known in exhibition circles, it was thence I determined to wend my way after breakfast. The former place is the seat of the Marquis of Lothian, whose interests in horticulture are here entrusted to Mr. McHattie, a gentleman who more than once has victoriously crossed the border, he being the fortunate grower of fruit worthy to be set before either kings

princes, or notable subjects, and which has thus secured the favourable recognition of fruit experts in open competition. The Newbattle Abbey vineries and peacheries I found to be just such as might be calculated to sufficiently supply his lordship's table, and a careful selection of early and late varieties seemed to be more depended on than a multiplicity of houses. With Hamburgs ripe, others were in natural rotation, they being grown under the same treatment. To say that the fruit, and especially the Grapes, was well grown, scarcely conveys an adequate idea, as size was exceptional, and the berries of the Gros Colmans were, I think, larger than I had ever previously seen; and colour was most promising—there was Lady Downe's, as all growers like to see, jumping from green into black without taking that longer course of a gradual transformation, and with all the intervening tints. Muscats were very fine indeed, and I could easily imagine what they would be like by the time that the International comes round. Young canes, but apparently in the second year, were carrying one bunch each, clearly evidencing that judicious treatment which will tell twenty years hence when, if proportionately treated, in all probability these same Vines will still be retaining all their youthful vigour. They were a little late, but the grip that the roots had evidently got of a good pasture was as discernible to the practised eye as though each stem and rootlet had been laid bare. Mr. McHattie having to send off the usual consignment of fruit, &c., to the Marquis's London residence rather hurried away from several specimens over which the mind still lingers, and that, with the exceedingly kind reception I had received, speedily fixed the determination, should I ever again, with time to spare, be in the neighbourhood of Edinburgh, I should remember Newbattle Abbey, its fruit houses, vineries, and most excellent Grapes.

It was with pleasant thoughts that I made off to one other notable establishment close by, the gardens of Melville Castle, the seat of Viscount Melville. There also I soon found in Mr. George McKinnon the right man in the right place. But I think it is due to the fraternity to say that kindness and courtesy is the common characteristic of gardeners; I suppose it is their being so surrounded with the beautiful that sweetens, and hence the right good fellowship when stray members of the brotherhood meet. But, be that as it may, under the guidance and special attention of Mr. McKinnon I very soon found, as house after house was inspected, that I had been drinking to the fulness of delight by the good succeeding the beautiful as each section of the fine panorama of Melville was being unfolded. I now rather feel the loss of taking no notes on my tour, though it needs none to bring to my remembrance one more example of Muscats, as they are, I think, only grown in Scotland, and the Madresfields, Mrs. Pince's, and many others in those teeming luxuriant vineries. Being substantially remembered, as a stranger in a strange land, I again set out for fresh discoveries in this land of plenty, but a thunderclap in the park and a splash ruthlessly reminding that "the schemes of mice and men gang oft a-gley," with my compass ominously pointing stationwards, I speedily made tracks that way, and once more reaching the grand old rock-capped city, the second day of my rambling ended.

After an early start the next morning a little after six I might have been met threading my way through the multiplicity of hampers, boxes, and bundles, and the numerous allies of the Glasgow fruit and vegetable market. But here I met one other misfortune—somehow I had got off the track, it not being market day. But, and fortunately, I found a substantial breakfast supplied at a handy station hotel. By the 8.45 A.M. train I was again a passenger, this time my destination being Polmont station, near by which is the seat of T. L. Learmouth, Esq., an Australian gentleman, I understand, who occupies Park Hall, and at which has been erected extensive vineries. Here both the manager, Mr. Murray, and Mrs. Murray, joined in giving me a hearty welcome. So once more my trip was surrounded by sunshine, and before I left Polmont I had solid reason for believing that the sun also did shine on Park Hall vineries.



It was clear I had been well advised as to the track that would open out to still more interesting discoveries, as, sure enough, here was Grape growing with cropping and luxuriance such as I had never previously seen. My first impression was, Were those Grapes mine I would pray night and day for a season with fourteen months' sun, as how such a growth of wood could be ripened without it was past my comprehension. And, undoubtedly, there was cropping in proportion to growth. On one Muscat cane I counted fifteen bunches, and I have weighed Grapes too long not to know that they would cast the scale at 45 lbs. Mr. Murray I found delayed his stopping till laterals were some 6 or 7 feet long, and this undoubtedly resulted in root vigour proportionately. Bunches generally were large to an extreme, and Lady Downe's, Golden Queen, and Mrs. Pearson especially so, they in many instances averaging between 3 and 4 lbs. Up to now I had concluded that I held the whip with Alicantes; but here I saw that I was caught up, and with Mr. Murray being a few days earlier, at any early date I might be passed. Our Gros Colmans I saw just about the same stage, though here again, and especially after getting home, I concluded that foot for foot of glass I should probably cut greater weight and value. This allusion to home your readers will perhaps kindly pardon, but as journeyings are frequently after knowledge so were mine, and it is by comparison that we find out where knowledge is most necessary. At Park Hall, too, were Black Hamburgs, Alnwick Seedlings, Raisin de Calabrias, Gros Marocs, Muscat Hamburgs, and Madresfield Courts, all growing in the greatest luxury and abundance. After leaving Mr. and Mrs. Murray's hospitable roof and accompanied by a shorter cut to the station, when left alone my mind was at once set meditating on the rich store of pleasant remembrances that I had happily to carry home, and the evident lessons that there might yet be learned anent Grape growing.

The next morning once more found me early astir, and again accompanied by my son we reached Milbank, so long under the charge of my old friend and superb plant grower, Mr. Patterson. It was with much regret that I learned that regrettable changes were contemplated which would probably result, after some forty years' residence, in Mr. Patterson having to seek out a new sphere for his declining years. Thrift and prudence fortunately, I am glad to know, will prevent the necessity of choosing a new home in a hurry, but in all probability the new home will be necessary, and which I much hope will be as suitable as Mr. Patterson's life-long character and abilities have been esteemed.

The place of the cousins Buchanan, near Stirling, was the one I next wished to see, but I was in this dilemma—I had reached my last day, and it was the day on which the renowned Grace with his Gloucester team was timed to play the gentlemen of Scotland, consequently I determined to secure what might never be repeated, a special treat on the cricket field, in which I take great interest, and so my visit to my old neighbours and much-appreciated friends and other places on my list was left over to some future opportunity. — JOSEPH WITHERSPOON, *Red Rose Vineeries, Chester-le-Street.*

### PINUS INSIGNIS.

I AM forwarding to 171, Fleet Street, by the same post as this communication, a small shoot cut from a rather remarkable specimen of the above named Conifer, remarkable on account of the way in which it has passed unscathed through many severe winters, while large numbers planted near it at the same time have all been killed. A brief statement of the facts, which I have gleaned from a person who helped to plant the trees, are as follows:—

About forty years ago young trees of *Pinus insignis* and *Cedrus Deodara* were planted alternately to form an avenue in the park here. A very severe winter occurred five years after they were planted, and killed every *Pinus* in the avenue, with the exception of the one from which the specimen sent was cut. Throughout the many severe winters which have occurred since this sturdy Conifer does not appear to have been injured in the least, although not sheltered in any way, more than the others which succumbed

to the influence of severe weather. As my noble employer is greatly interested in Conifers, and indeed trees in general, I should be glad to know if you can detect any difference between the shoot sent and those of the variety generally grown. It differs slightly from smaller specimens we have about the grounds, but that may be accounted for by the great disparity in the size and age of the trees.—H. DUNKIN, *The Gardens, Warwick Castle.*

[This communication re-opens the question of the synonymity or otherwise of *Pinus insignis* (Douglas) and *P. radiata* (Don). The former is so distinct and beautiful that its well-proved tenderness is a great misfortune. Trees of it have thrice in our recollection been practically swept out of the country, only a few remaining uninjured. A really hardy *Pinus* of the colour and character of *P. insignis* would be a welcome acquisition, and this appears to exist at Warwick Castle. Dr. Hogg has a noble specimen on one of his Sussex estates that has passed unscathed through more than forty winters. Is the Warwick Castle specimen the true *P. insignis*, or is it *P. radiata*? This latter Gordon, in his "Pinetum," distinctly states is hardy, while he describes *P. insignis* as only "tolerably hardy." After describing the characters of the leaves of *P. radiata* syn. *P. insignis macrocarpa*, Hartweg, and stating that the cones are "6 inches long and 3½ inches broad at the base," he goes on to say:—"This beautiful Pine resembles *Pinus insignis* in some respects, but differs very much in foliage and cones; the leaves of *P. insignis* are much longer and stouter than those of *P. radiata*, while the cones of *P. radiata* are nearly three times the size of those of *P. insignis*, and with the scales much more elevated. It was first discovered by the late Dr. Coulter in Upper California, in latitude 36°, near the level of the sea, and almost close to the beach, growing singly, and attaining the height of 100 feet, with a straight stem feathered to the ground with branches. He says it affords excellent timber, which is very tough, and admirably adapted for boat building, for which purpose it is much used at Monterey. Mr. Hartweg met with it on the descent towards the sea, on the mountains of San Antonio, 60 leagues south of Monterey, forming a small wood, extending along the beach, where the deep grass-green of its foliage formed a great contrast with the parched-up vegetation around it at the time. It is hardy, and well adapted for planting near the sea coast."

Gordon says the cones of *P. insignis* are only "three inches and a half long and two inches and a half wide." He was Superintendent of the Horticultural Society's Gardens at Chiswick when Douglas and Hartweg were collecting, and must have founded his observations on actual specimens and obtained his information from the fountain head, so to say, and consequently is entitled to be listened to.

The close similarity in appearance of *P. insignis* and *P. radiata* may have justified subsequent observers in regarding them as synonymous; but however great the resemblance may be, if trees of one succumb to severe frost and those of the other withstand it, surely there is a practical and substantial difference. Dr. Hogg suspects his tree is the *P. radiata* of Don and not the *P. insignis* of Douglas, and it is at least possible that the hardy *P. insignis* at Warwick Castle may be *P. radiata*. We shall be glad if any of our readers can supply information on the matter.]

### HOME-MADE WINES AND PRESERVES.

A VERY large number of readers of the Journal will have experienced a keen sense of pleasure in seeing in your last issue an admirable portrait of Mr. Robert Fenn, who has won for himself a distinguished position amongst horticulturists of eminence. His contribution to your pages, "As in a Dream," was delightful reading, and articles from his pen have always been practical and readable.

My object now in referring to him is for the purpose of drawing attention to the subject of home-made wines, on the making of which both he and Mrs. Fenn are great authorities. I have never had the pleasure of seeing his old home at Woodstock or his present one at Sulhamstead; but I distinctly remember his home-made wines at a great horticultural exhibition at the Aston Lower grounds, Birmingham, many years since, when he brought several bottles of various wines made by him and Mrs. Fenn at Woodstock. Several horticultural friends were invited to taste these wines, and a general feeling of pleasure was experienced with these pleasant refreshing substitutes for beer, and I have often wondered since why the manufacture of pure home-made wines has not been taken in hand by some enterprising person or persons, so that the general public may be enabled to obtain them at a moderate price. I well recollect in the trial of these wines at Aston we tasted some which closely resembled good Burgundy, Moselle, champagne, and other wines, all pleasant and most acceptable additions to the dinner



table, especially for those who do not belong to the wealthy class. Mr. Fenn then stated that the wines I have referred to could be made to pay at a very low price per gallon.

I feel strongly that a large paying industry may be created if this subject was taken up in earnest in various parts of the country and in a proper way. Thousands of tons of Rhubarb annually wasted could be utilised, and produce a pleasant drinking wine at a very cheap rate, and especially when matured by a little age. Parsnips, again, make a delicious wine, so also do Gooseberries and other fruits; and this year in many parts there will be a heavy crop of Damsons, and Damson wine is a very pleasant beverage. There are many things that could be utilised—such, for instance, as Cowslip flowers, and wine from this flower needs no praise from me, from those who know what it is.

Mr. Fenn uses Grapes, not at all necessarily ripe or near it, for his excellent wines; and as it is now the fashion to encourage the cottager to grow fruit, Vines could be planted against many a cottage, selecting the hardier kinds at a cheap price, for growing fruit for wine-making purposes. With manufactories for making wines, and a system of collecting from the outlying districts, a great trade could be created, and money put into the pockets of producers, while the public generally would be able to procure pure refreshing drinks, intoxicant only in a remote degree, and a thousand times preferable to very much of the manufactured beer of the present day.

The Baroness Burdett Coutts at the Mansion House meeting of the Fruiterers' Company spoke of the improved knowledge required in the making of jam. Her words are words of import. In these days of manufactured butter, when real butter is entirely beyond the reach of families of the struggling class, and in large towns especially buy as butter a composition the origin of which is doubtful, good wholesome unadulterated jam at a low price would be an inestimable boon to thousands in every large town. There are already large makers of jam about the country, and Lord Sudeley's people are making jams on an extensive scale, but there is ample room for more, and what is particularly needed is that our cottagers and working classes may be taught how to make these preserves with a view to their keeping for winter use.

The bottling of fruits could also be taken in hand and useful information given to those in the rural districts as to how this should be done, and thus have in stock a supply of fruit for the winter. Sugar is so cheap now that preserving fruit in any form is not an expensive matter.

I wonder if many of your readers have heard of, much less tasted, pickled Damsons! I never did until three or four years since, and it was a new sensation in eating to me. Delicious is the word, and as Damsons in the midland districts are plentiful pickled Damsons will be in demand by my friends.—D. R. S.

#### MIGNONETTE AS STANDARDS.

As week by week goes by I am eagerly at work scanning and profiting by the contents of my favourite paper, the *Journal*, and one item of information I gathered from its pages bids fair to become a good success; but I am in a little fog about the matter, and I am seeking for your kind assistance if you will please to afford it me.

I refer to the splendid article on "Mignonette as Standards" in your issue of May 21st of this year. The directions there given are that seed should be sown about the 24th of May. That fell on Sunday this year, so I sowed mine on the 23rd. I do not get the *Journal* till Saturday, and I had two dozen small pots (2½-inch) sowed with 'Miles' Spiral within two hours after I read the article. The seed germinated in twelve of the pots and in twelve it failed. As soon as roots showed through the drainage I shifted the plants into 4-inch pots. Now here comes my query. The article says, "The plants are shifted into 4-inch pots, &c," and then goes on to say, "The plants are returned to the frame and kept there until the end of August." Now does that mean that they are not to be put into the 7-inch pots it speaks of until the end of August? because my plants will be hard root-bound long before that time, as the roots are now showing plentifully through the pots and the plants are pictures of health, 6 inches high, and a root-bound condition your correspondent speaks of as one to be "rigidly avoided."

Will you also please state if the side shoots are entirely removed would more side shoots spring after the topping? because they can only spring from the base of the leaves on the main stem, and if they are entirely removed would it not be equal in its effects to the removal of a bud from the base of a Gooseberry cutting—viz., that no other shoot or bud would spring therefrom? If so, how about the production of side branches of which your correspondent speaks? Does he mean their entire removal, or would it be better to pinch all side shoots to one leaf?

I do not quite understand the instructions for making the trellis. Does "Practical" mean that the trellis before it is put on shall be

1 foot high or deep, whichever he likes to call it? If the plant is kept to one stem till, say, it is 2 feet high and the trellis is only 1 foot, what does he do with the 1 foot above the trellis? Does he bend it down, or how does he manipulate the affair?

Would you kindly say how many wires (which would correspond to the frame wires of an umbrella on which the material is sewn) should be used, and if any circular wires are placed on these? In short, I should be pleased with instructions as to making one of this kind, as I have never made one, though I have made other shapes.

I am afraid I am giving much trouble on this subject, but my employer is very fond of Mignonette, and likes to have it all the year round; therefore the matter is to me one of importance.—ANXIOUS.

[With the object of relieving the anxiety of our correspondent we placed his letter in the hands of the writer of the article referred to, and the following is his reply:—"The germination of my Mignonette seed this year was much below the average. The plants should be shifted from 4-inch to the 7-inch pots when the former are full of roots independently of any fixed periods. Such details as these must be attended to on the spot, and as far as I am aware I do not give any hard and fast line as to when successional pottings should be carried out. Rigidly avoid having the plants root-bound in the earlier stages, or their growth will be checked, and continuously free growth is absolutely essential to success. The roots must be kept moving, even if an extra small shift is resorted to.

"The side shoots which spring from the main stem must be removed as often as they appear below the point where it is intended to lay the foundation for the future head, and this would be about 18 inches or 2 feet from the top of the pot. For this length it is intended to have a clean tree-like stem, which would not be the case if side growths were allowed to extend even to one leaf from the main stem. It is only when the desired height or length of stem, as previously named, is obtained, that what I term side shoots are allowed to extend, and removing all side growths up the stem, confining the growth to one shoot, is the way to obtain the necessary height which will enable the plant to rank as a 'standard.'

"Regarding the trellis, 'Anxious' misses the point. If, as he says, 'the trellis is 1 foot high, what is to be done with the remaining foot of stem?' Obviously it must appear above the top of the trellis. If a trellis 1 foot high were placed on the top of the pot the plant could not be a standard. What is meant is that the actual trellis is 1 foot high. To raise it to the point where the shoots branch, a stake 2 feet high from the top of the pot must be provided. The inside centre of the trellis rests on the top of the stake in true umbrella fashion.

"To have a trellis 1 foot deep, or high, whichever you choose call it, and 15 to 18 inches in diameter, one circular wire at the bottom is required; to this about four wires are fastened, which bend over to give the shape, and are secured on the opposite side to the circular wire. This number would provide ample space whereon to train the shoots, because after the foundation is laid subsequent growths can be tied down to the main stems themselves. Therefore the number of wires is a matter of convenience to the cultivator. There cannot be any harm in fixing two additional circular wires at about 4 inches from the bottom wire; these may be of a smaller size, ordinary knitting-needle size would do." It is no trouble whatever, but a pleasure, to us to publish this information.]

#### MR. FENN AT HOME AND THE MAGNUM BONUM POTATO.

CHANCE had more to do with the raising of Magnum Bonum Potato than science. Mr. Clark was fond of his garden, and he read the *Cottage Gardener* at the time I was initiating the public through its pages in the first crossing of Potatoes. Clark had then Paterson's Victoria and the then newly imported American Rose growing in his garden. Eventually some fine ripe berries offered on the Victoria, and he tried his 'prentice hand by sowing the seed in the following spring. The season proved disastrous in regard to the disease, and whether the raiser gave the seedlings up in disgust or failed to strictly observe them is now past finding out. At any rate, the late Mr. Shirley Hibberd was poking about the New Forest and spied out some living Potatoes amongst the dead in Mr. Clarke's garden. The future growth of these seedlings in Mr. Hibberd's experimental garden at Stoke Newington was satisfactory, their inspection by Mr. M. J. Sutton also satisfactory, and Mr. Clark was commissioned to grow them into "stock." The variety was named Magnum Bonum and distributed by the Reading firm. Thus ends the eventful history so far as I know.

I believe I may have been a chief cause of inducing Mr. Clark to cross for some of the popular varieties that the Messrs. Suttons are now distributing. Thus I had occasion to visit a friend at Bournemouth. I accompanied our friend Mr. Jones on the way to Mr. Clark's ground. He was growing seedlings from American crosses largely. From what I had experienced from the description of interbreeding I tried to dissuade him from it. He was also crossing Woodstock Kidney with Paterson's Victoria. This I did not approve of, as W. K. was weak in constitution, and so unfortunately subject to take the disease. "Well then, what would you advise?" he asked, and I answered, "You must feel a greater interest in Magnum Bonum than any other Potato; cross it with some good old English variety such as Fox's Seedling, the old Cambridge Kidney, &c., &c." "How am I to get Fox's Seedling?" Here Mr.



Jones joined us again, and we learned that the Messrs. Suttons still retained it in their trial grounds. I ascertained only but the other day by Mr. Jones himself that Mr. Clark got the Fox's Seedlings through him. This is the finger I had in that pie.—ROBT. FENN.

[Either Mr. Fenn did not instruct his pupil properly, or, as is likely, the latter did not appreciate the point of his tutor's remarks. Perhaps the "old '52" absorbed attention.]



#### THE NATIONAL ROSE SOCIETY SCHEDULE.

"J. B." does not attempt to answer the argument of my last letter. I have no fault to find with him for this, for I think the task was beyond his power, but I do seriously complain of his misstatement of what I did write. He says, "'W. R. R.' still regards the matter from one point of view only—the possible disadvantage to the large grower. The argument that at all costs the man with the big stock must be provided for, and the smaller one left to suffer in the event of bad seasons, is a most unsound one, &c."

If anyone will turn to my letter in the issue of July 16th he will find I took first the case of the small grower, and showed that in any circumstances under the present rules he is not precluded from exhibiting, and then compared his position fairly with that of a large grower under such rules as he would apparently desire. It is evidently of no use my writing further in answer to "J. B." if not only my arguments are unanswered, but my letters misapprehended, and I must decline further controversy in the matter at present.

The Rose season has been one of the most disappointing in my recollection.—W. R. RAILLEM.

#### WOODBIDGE ROSE SHOW.

IN our report of this Show, on page 53, last week credit is given to Mr. Blant and Mr. Hart for winning the second and third prizes in the open class for twelve Teas. The names should have been written and printed Mr. B. R. Cant and Mr. Frank Cant, two celebrities that the Rev. A. Foster Melliar may feel more proud in defeating than two competitors unknown in the Rose world, Messrs. Blant and Hart. Reports of shows have often to be written very quickly, and names in consequence are sometimes a little obscure. The printers appear to have "followed copy" with as much fidelity as they could, and the names Blant and Hart appearing in a small class they might be regarded as new local exhibitors. The linking of the "B" to the "C," which was like a small "l," Bl, and the F with the C, also like a small "l," thus Fl, explains the error, and we now have pleasure in giving to Mr. B. R. Cant and Mr. Frank Cant the credit to which they are entitled.

#### WANDERINGS.

A BUNDLE of tourists' guides and a letter from a good friend remind of sundry wanderings over the water last year. Mention has been made of the "outing" and incidents by the way, but the story was not completed. Now that the minds of men are turned in the direction of travel, whether they can indulge in the desire or not, seems appropriate for a further recital of the experience of a pair of home-loving rustics who ventured to "go abroad."

As it is desirable as far as possible to combine prudence with pleasure, it occurred to me when taking tickets at Liverpool Street station for Antwerp to invest in two for insuring £1000 each, in case the ship should happen to be on her last voyage, as ships come to an end, and sometimes unexpectedly. The next bright idea was this, Of what use will he the tickets if we all go to the bottom together? Post them home of course. Yes, that is the thing to do, but the train would not wait. Very attentive was a smiling porter, who seemed as if he could not do enough to make us comfortable, would he do the posting? He beamed with delight at the suggestion, asking me to write the address on the back of one of them, and it was done. "Now look here, porter, the stamp will be a penny." "Yes, sir." "Then here's 2d., that's 100 per cent. profit, you know." "Yes, sir." "And you will get a good envelope for a halfpenny." "Yes, first-class, sir." "Then here's 2d. for that, or 150 per cent. for you." He thought he was doing well. "Now here's another 2d. for yourself, and an extra 6d. for completing the contract well and quickly." He gave thanks bountifully, and off we went—the train to Harwich and the porter to the post office, at least, so we expected, but the letter was never delivered. Was it posted? I have handed dozens of letters, postcards, or telegrams out of trains for posting, and in every case they have arrived at the intended destination. I have sometimes wondered if a bright idea did not occur to the G.E.R. porter, and led him to reason somewhat in this way. "Supposing the ship should happen to go down, nobody knows about these tickets, and couldn't I just hand them over the counter and say I had called

for Mr. and Mrs. Darby's £2000? That would be something like a tip, and if the rustics didn't manage their own affairs better that was their look out, not mine." If that was so, and I hope it was not, I am glad to say the event did not come off. The money remains at the insurance office, just as we hoped it would from the first, and the ship brought us safely home again. I have never been to Liverpool Street station since without looking for that porter. The moral of this episode is not to trust to others doing what you can do yourself by a little forethought, and thus keep the "tips" in your pocket. Working railway officials, however, as a body, are, in my experience, trustworthy men, and, perhaps, after all, my obliging porter lost the letter, or it may have gone astray on its journey, and I will now proceed on mine, or, more correctly, *we* will, because I have always somebody at my elbow trying her best to keep me right in my "manners," which is no easy task.

In my last "sereed," as some "rough diamond" of a gardener appears to describe articles which he reads, or are read to him, Mr. Charles Van Geert was described as my guide, philosopher, and friend in my wanderings about Antwerp. As a guide a long life spent there constitutes him one of the best, for he is acquainted with all that is best worth seeing and all who are best worth knowing. As a philosopher, if that term means, as it does, a person versed in the governing principles of Nature and the art of cultivation, it is in this case correctly applied. As a friend, if that means willingness to assist and bestow kindness, and enjoy doing so, as it does, then Mr. Van Geert was such a good friend to me that but for him not only must much have been missed that was seen, heard, and enjoyed, but I should more than once have been lost in my wanderings, as I was several years ago, when every narrow street I passed down led me just where I did not want to be, and the worst of it was, the further I got into the maze the heavier the rain poured down, giving me what plants like in summer, a "thorough good drenching." I find there are two things good for the memory, getting into a difficulty and getting out again, and if any of my readers find himself rushing up and down streets for an hour that lead to the wrong place, in a pouring rain, with nobody to understand a word he says, he will not soon forget the experience, nor will he the pleasure that follows on finding himself among friends again who greet him in his mother tongue, which sounds quite musical under the circumstances. During my first visit to Belgium many years ago I had as a companion as fine a type of "John Bull" as the continentals could imagine. He was quite a favourite with them, but was bothered by their language. Arriving at our Hotel in Brussels from Waterloo we heard above the babel of "clatter," as he called it, of the company, something that appeared to have the same effect on him that we are told the trumpet has on a war horse—aroused him to action, for he jumped with joy, exclaiming, "I hear some Englishmen, Darby, and must go and treat 'em." They were not slow to take in the situation, and one of them promptly said, "Make yourself comfortable, old man, we will protect you, as we are British volunteers." It was an amusing moment, and he was soon surrounded with patrons.

After seeing the sights of Antwerp last September—the splendid new museum and other attractions, and noting the improvements and extensions of the prosperous city—we had a delightful day in the country. Mr. Van Geert's estate at Calmpthout is just such as to afford pleasure to visitors who are interested in farming, and especially in trees and shrubs—not that the farming is superior to English models, but different, and it is that which invests it with interest. Mrs. Darby, as a *ci-devant* dairywoman, was acquainted with the uses of certain animals, but it was new to her to see them dragging home cartloads of Potatoes. This was not, however, on the land of our guide. His flock of sheep was different, and differently managed to those on her home farm. They are long-tailed animals, follow the shepherd lazily all the day, nibbling as they go, then he leads them home at night to their shelter and food—such large well-appointed buildings as are not seen in England devoted to the same purpose. We appeared to see here in reality the customs of the patriarchal shepherds of the East, as represented in pictures—shepherds who love their sheep, and are known by them because tended so kindly. How different seems this pastoral ease—these well-bedded, well-roofed buildings, with food racks all round, in which the animals are kept warm—from the harder routine business methods of British farmers, whose sheep were half buried in snow for weeks last winter (thermometer below zero) in the most exposed of Turnip fields. One of my friends has considerably over 1000 that know not what roof shelter means after they are a fortnight old to the end of their days. This procedure can scarcely be comprehended by our Belgian friends, who must presumably be content with less profits than those accruing to the sheep farmers of this country. The waste products, however, of the flock herded at night have a special value to Mr. Van Geert for his nursery, through which we next saunter admiringly.

This nursery differs from all others in Belgium, and it would be difficult to find its parallel elsewhere. It may be described as a museum of hardy trees and shrubs systematically arranged, and the whole forming a most enjoyable pleasure ground. It is disposed in a series of narrow avenues with neatly kept divisional Conifer hedges about 6 feet high, and here and there cross hedges which arch over the central path. Many kinds of Conifers are represented in these hedges. One of the best, perhaps, for the purpose is *Thuja gigantea*, often sold as *T. Lobbi*; but several others have an agreeable appearance, and might be preferred by some persons who desire ornamental and effectual screens in their gardens. The main avenue is remarkable for rows of purple Beeches.



which stand like prim dark-robed sentinels 20 or more feet high. The trees are, roughly speaking, 3 feet wide at the base, and taper to a point like the slender spire of a church. In square "bays" in front of them stands many a stately Conifer, and the collection of specimens would have been more complete but for the requirements of the king to whom they were readily supplied by one of the most loyal of his subjects; but they would have been yielded with great reluctance to anyone else, if supplied at all. Mr. Van Geert, sen., is a connoisseur and amateur-lover of trees, and has planted large numbers for his own pleasure and for purposes of comparison and instruction, not for sale. His son, Mr. Charles Van Geert, may be regarded as the business representative, and in this respect enjoys, as he deserves, an European reputation. There is no catchpenny habits of business about the Van Geerts, for these they are too high-minded and well circumstanced, like many of our good people at home.

To begin noticing what was noticeable in the great collection would of necessity lead to a difficulty—namely, where to stop. The contents of the nurseries require a catalogue of 130 pages, and descriptions of special trees, shrubs, and plants are given in concise footnotes, rendering the work instructive. An example of two or three may be given. For instance, the reference to *Acer Reitenbachii* (4), is "a Maple remarkable for its vigour and its beautiful purple foliage, which is darker in autumn." Then we pass on a few pages to *Robinia semperflorans* (64), "extremely floriferous notwithstanding its great vigour, producing from May to September without any break, beautiful clusters of white flowers, deliciously perfumed." Again, *Rhamnus immeritina* (129), "The most beautiful of all the *Rhamnus*; its dark green, honeycombed leaves are of very large size." In the collection of Osiers *Salix uralense* (134) is described as having very long growths, with clear green bark, and of extreme tenacity; it is perhaps the best species for Osier beds. Then going almost to the end of the work, to the fine collection of Hollies, the distinct hardy robust form that was so prominent, *Ilex Aquifolium camelliæfolia* (469), is said to have large shining, almost spineless leaves, and is considered one of the most beautiful of the green Hollies. It excels the familiar varieties *Hodginsi*, *Shepherdi*, and all others with large green leaves, by its dark glossy smooth foliage. Those are samples merely of what may be found in the well arranged and carefully prepared pages.

Leaving what was growing so well in the different sections, a pause may be made to notice the preparation of that which makes them grow. The natural soil is sandy, and could not therefore contain all that trees and shrubs need for their perfect health and root production, and especially are suitable additions to insure permanent fertility. For root production humus is the chief essential, and for sustaining growth phosphates and potash. All these are provided. Large, neatly made compost heaps, containing hundreds of loads, are seen in various stages of decomposition. The bulk consists of vegetable matter, leaves from Fir and other trees, obtained from forests and collected at home. They are turned at suitable intervals, and enriched with liquid manure, in which is conveyed the required constituents in proportions calculated to complete the fertility of the soil for the purpose in view. So valuable is this prepared compost found to be that large quantities are required at Laeken by Mr. H. Knight, His Majesty's highly skilled gardener, for general cultural work, and the various kinds of plants that are grown there show that they have what they need. At Calmthout the compost is used when Conifers, shrubs, and trees are planted, but in the case of those intended for removal it is not dug into the land, but the excavations for the roots are lined with it 2 or 3 inches thick, more or less, according to circumstances. This causes a great multiplication of fibrous roots in a prescribed area, and when the specimens are taken up they have a wig-like mass of roots of the right kind for their quick re-establishment. During the bright hot days of early September truck-loads were taken up, the roots surrounded with moist packing material, closely matted, and there they were, unshaded and unsprayed, awaiting removal to Germany, yet not a Conifer shoot displayed the least signs of drooping, though many of the well-furnished specimens were from 12 to 15 feet high. To the inquiry, "Are you not afraid of the sun injuring them?" the answer of Mr. Van Geert, jun., was smilingly but emphatically given, "Not the slightest, and every one will grow after the exposure and long journey; it would not do, you know, to send trees that would die." This is the great tree, shrub, and Conifer emporium of the Continent, and is highly worth a visit by arboriculturists who have a little time to spare when at Antwerp, and they would be certain to find much to admire, and probably come away a little wiser than they went.

The château is the commodious and well-appointed country home of the family, the presiding genius at the time of our visit being Madame Roosas, a daughter of the esteemed head, whose graceful kindness to her visitors will not soon be forgotten. Of the city nursery only a small portion remains attached to the family home as a sample ground, fine streets of stately houses standing where trees were raised in thousands a very few years ago. But even the streets are memorials of famous men connected with gardening—Dodoens Street, Linnaeus Street, Horticulture Street, Van Geert Street, if memory faileth not. Certainly the change has been great, and, it must be added, profitable. It is a case of the city eating up what was once cheap country land because outside the fortifications, but long since brought within the stupendous protecting lines. After an enjoyable rest with our friends, pleasant converse and good guidance, for which they are thanked, we passed to other good friends—the famous Belgian amateur gardeners, Mr. and Mrs. Jean Everaerts, who gave a hearty welcome to—DARBY AND JOAN.

### GERBERA JAMESONI.

At the recent meeting of the Royal Horticultural Society in the Chiswick Garden Messrs. J. Veitch & Sons of Chelsea exhibited a plant of a little known member of the family Compositæ, *Gerbera Jamesoni*. Possibly within the past year or two it may have attracted the attention of some visitors to the Royal Gardens, Kew, as plants have flowered several times in the Cape house, also in the cool house for Alpines, and very



FIG. 10.—GERBERA JAMESONI.

conspicuous they were. The flower heads are extremely bright orange scarlet, and have long narrow equally spreading florets, which give a distinct appearance to the plant, as the heads are borne on long slender stems, and have an erect pose that enables them to be seen to the best advantage. The leaves are clustered close to the base of the plant, irregularly undulated, and of a peculiar metallic green hue.

It appears to succeed in ordinary moderately light soil, and thrives in a cool house, but it has also been recommended for a warm position on a rockery where it can be protected from frost. This *Gerbera* is a native of the Transvaal, whence it was introduced about four years ago.



## GARDENERS' ORPHAN FUND.

## ROSE FAIR AND FLORAL FÊTE AT THE CRYSTAL PALACE.

LOVELY summer weather and a brilliant display of floral beauty rewarded visitors to the Crystal Palace on Wednesday, July 15th. Sunshine and Roses are a combination that appeals powerfully to everyone, and when to enjoy them is to help in the cause of charity the pleasure in them is doubled. It is fitting that any attempt to aid the good work of such a fund as this should be associated with flowers. Their influences are softening and sweetening, and if people can be encouraged to go a little beyond the enjoyment of the moment and give a thought to those, hard-worked and ill-paid, who are the main instruments in producing the exquisite blossoms in whose beauty and fragrance they find enjoyment, the chances are that the flood-gates of sympathy will be thrown open wider than they would otherwise be on behalf of the fatherless. Let a just tribute be paid to the tact and consideration with which the disposal of fruit and flowers for the augmentation of the Fund was accomplished on this occasion. With recollections of various "fancy fairs" crowded with stalls presided over by titled dames at which our representative had found himself seized and held up to ransom, he felt somewhat apprehensive for his safety at the Palace, but all was considerate and unobtrusive. Mr. Barron's fair assistants secured their ends by gentle offerings and appealing glances, which, after all, are woman's best armament. A basket of Strawberries better than he could buy at a fruiterer's shop was offered to him at a lower price, and glorious clusters of Roses fresh from the great nurseries were proffered just as cheaply. There was value, and more than value, for money, but a refusal to buy was not followed by importunity, while a purchase was rewarded with the sweetest of smiles in addition to the fruit or flowers that were bought. There was no cream to the Strawberries, but—however, the subject may be left, or the Editor may regret not having sent a more staid and less impressionable representative for the occasion.

Roses were, of course, the attraction of the day. They were there in thousands, and they had been given by generous helpers in various parts of the kingdom. In the auditorium there was a veritable feast of Roses. A huge square had been formed of staging 5 feet broad, ample space being left in the centre for a group of graceful Palms and Tree Ferns. The staging was covered with Roses, not arranged in any formal way, but laid close together on a carpet of moss. They were represented in wondrous beauty and diversity, and in all shades of colour that the Queen of Flowers boasts. Lustrous Hybrid Perpetuals lay side by side with delicate Teas. One recognised the familiar shell-like petals of *La France*—beautiful queenly *La France*—the brilliant garb of A. K. Williams, the warm glow of *Xavier Olibo*, the rosy sheen of *Marquise de Castellane*, the pearly whiteness of *The Bride*, and the rich golden brightness of *Maréchal Niel*. No wonder that visitors thronged around and exhausted their adjectives in admiration. This magnificent collection was the contribution of many growers. Mr. Turner of Slough had sent a large number, and others had come from Mr. W. Rumsey of Waltham Cross; Messrs. G. W. Piper & Sons of Uckfield; Mr. W. H. Dwyers, Ketton Hall, Stamford; Messrs. Carter & Co., High Holborn; Messrs. Keynes, Williams, & Co., Salisbury; Messrs. Peed & Sons, West Norwood; Mr. Maurice Young, Godalming; Messrs. Jefferies and Sons, Cirencester; Mr. Frank Cant, Colchester; Mr. J. Smith, Mentmore; Messrs. Cannell & Sons, Swanley; Mr. H. B. May, Edmonton; Messrs. W. Paul & Son, Waltham Cross; Mr. Such, Maidenhead; Mr. Wythes, Syon House; Mr. Cummins, Hackbridge; Messrs. Cheal and Sons, Crawley; Messrs. J. Laing & Sons, Forest Hill; Messrs. Fromow & Sons, Turnham Green; Messrs. Dickson, Limited, Chester; Mr. J. Rose, Lockinge Park; Mr. G. Prince, Oxford; and Mr. Smale. It was a royal display, and to every participant therein the thanks of the orphans are due. These flowers were on sale after six o'clock, but there were ten stalls in the nave, admirably and tastefully furnished, where fruit and flowers were being sold during the afternoon.

Apart from the great Rose display and the stalls alluded to several nurserymen had sent special collections of plants, which were arranged in the great nave and auditorium, and greatly enhanced the beauty of the "fair." Mr. H. B. May had one of his delightful displays of Ferns, cool and inviting in the hot weather. Mr. Chard of Stoke Newington had what he termed "Arcadian floral decorations," consisting of wire arches intertwined with crimson Roses and yellow Columbines, nestling amongst Ferns and other foliage. Messrs. Laing & Sons had a splendid stand of their famous Begonias, double and single prize varieties beautifully arranged, and it excited great admiration. Messrs. B. S. Williams and Son supplied a welcome feature in a group of flowering and foliage plants. Messrs. Cannell & Sons had provided a stall furnished with Roses, Begonias, and small succulent and other plants in pots for sale, a practical and admirable idea, carried out also by Messrs. Reid & Bornemann. Messrs. Peed & Son had a lovely bank of Gloxinias and Ferns, also a group of flowering and foliage plants. Mr. J. R. Box, Croydon, had an attractive group of Begonias, Caladiums, and Gloxinias; and Messrs. Carter & Co. had a beautiful stand of their choice Petunias in various colours, also Cacti, a most pleasing and unique display. Besides these there was a collection of cut flowers, comprising Roses, Canterbury Bells, Potentillas, Sweet Williams, Gaillardias, Iris Kämpferi, and others from Messrs. J. Veitch & Sons, Chelsea, stands of Roses and herbaceous flowers from Messrs. Cheal & Sons, and an extensive display of herbaceous plants by Messrs. Barr & Son, Covent Garden. There was also a very large and beautiful collection of cut flowers sent from various parts of the country for sale. Messrs. Bunyard, Cannell, and Williams had generously given supplies of Strawberries.

For visitors of an athletic turn a novel attraction was provided in the form of a cricket match between teams of gardeners and seedsmen, the former led by the stalwart Mr. E. Molyneux, and the latter by the equally stalwart Mr. C. H. Sharman. When our representative visited the scene of action he found the blue aprons getting slighter the better of the black ditto, and they eventually won somewhat decisively on the first innings, although the seedsmen got on much better when they started the second, which was unfinished. Without wishing the Journal to depart from its recognised province and intrude upon that of its sporting contemporaries our representative thought it might be of interest to give the respective scores, as the circumstances of the match were so exceptional and its motives so praiseworthy.

**Seedsmen:**—Pugh, b Agate, 0; E. Pollard, b Agate, 17; Sampson, b Floyd, 16; Cannell, c Rowbottom, b Agate, 10; Hurst, b Agate, 3; A. S. Young, st Rose, b Agate, 19; Ainsworth, b Floyd, 0; F. Pollard, b Floyd, 15; Ellis, b Agate, 1; C. H. Sharman, jun., b Floyd, 1; H. Young, b Floyd, 0; Parr, c Agate, b Floyd, 0; Pearson, b Floyd, 2; C. H. Sharman (Captain), not out, 3; Extras 5.—Total 92.

**Gardeners:**—Battell, c Sampson, b E. Pollard, 11; Cripps, c F. Pollard, b Hurst, 2; Hathaway, l b w, b Hurst, 3; Cower, run out, 0; Doe, b Pugh, 14; Agate, l b w, b Ellis, 2; Record, b Pugh, 5; Rowbottom, c H. Young, b Sampson, 11; Floyd, c Cannell, b F. Pollard, 20; Allman, c Sampson, b F. Pollard, 28; Rose, c Sampson, b C. H. Sharman, 1; Fassum, not out, 9; Dines, b F. Pollard, 0; Molyneux, b F. Pollard, 11; Extras 13.—Total, 130. In their second innings the seedmen had scored 68 for 2 wickets, Pugh making 25, E. Pollard 12, Sampson (not out) 23, and Cannell (not out) 5, with 3 extras.

Both indoors and out Rose day at the Palace was one of quiet enjoyment. It was not crowded, but the attendance was good, and it is to be hoped that the proceeds will prove satisfactory to the Fund. Mr. Barron, Mr. Head, and all their assistants worked so well that any other result would be a great disappointment. If the fixture became an annual one it would increase in popularity as it became better known. Should it do so may the sun ever smile as brightly on Roses and Charity as in 1891.



**EVENTS OF THE WEEK.**—The Rose shows are now rapidly drawing to a close. Two are announced for to-day (Thursday), Halifax and Worksop, and the last one we have on our list is Ripley (Derby) on Saturday, August 1st. On Thursday, July 30th, the St. Ives Society (Hunts) will hold their sixteenth annual Show, while in the first and second weeks of August there will be important Exhibitions at Southampton, Northampton, and Cardiff. For Friday, July 24th, Messrs. Protheroe and Morris announce a sale of Orchids at Cheapside from Messrs. Charlesworth, Shuttleworth & Co., *Cattleya aurea* and *Laelia præstans* being the chief features. On Tuesday, July 28th, there will also be a sale of Orchids in flower in the same rooms.

— **THE WEATHER.**—Friday last, the 17th inst., was the hottest day of the year in the metropolitan district, 85° being registered in the shade by the Astronomer Royal at Greenwich. Very heavy thunder showers fell on the two following days, making the roads like rivers in some localities.

— **THE POTATO DISEASE.**—We have found several diseased tubers among Potatoes obtained in the market, and hear that the murrain is serious in some parts of Ireland. If wet and dull weather happen to prevail for a week, accompanied with a high temperature, the devastating fungus will be almost certain to appear in many gardens. "Anti-Blights," composed of preparations of copper and lime, are said, if applied in time, to prevent the germination of the *Peronospora* spores and to destroy the fungus if attacked in its earliest stages. The Royal Horticultural Society has, in the opinion of practical men lost a great opportunity in not giving a full and fair trial to the different preparations of the nature indicated at Chiswick. The objection to their being trade products cannot be a strong one, seeing that nearly all the articles tried in the gardens this year came within that category. We think it a pity that a trial of fungicides has not been made at Chiswick, which may be described as one of the seats of the Potato disease in this country.

— **POTATOES.**—These at present are very healthy. I have had a large portion of our crops dressed with a preparation of copper in powder as used in France. We are now passing through the critical time when the disease usually appears. I will report the result of the application.—R. M., Newbury.



— WE regret to have to announce the death of Mr. FRANK MILES, a gentleman well known in the horticultural world, and who, during a portion of his too short life, did much to diffuse and foster the returning taste for the cultivation of the hardy perennial flowers of the garden, and especially for bulbous rooted plants. Mr. Miles was born at Bingham Rectory, near Nottingham, where his father, Canon Miles, was for many years rector, and in the same house which gave birth to Lord Sherbrooke, better known as Mr. Robert Lowe, the distinguished parliamentary debater. From his youth he was an ardent florist. When we first met him at his father's rectory we found him driving a wheelbarrow, doing the work with as great, if not greater, zest as any hired workman, and his father humorously introduced him as "the head gardener." Inheriting the genius of his gifted and accomplished mother, he mingled with his love of gardening a passion for art. After finishing his school career he was articled to Mr. Butterfield, the eminent architect, in whose office he spent some time; but architecture was not his forte, and having relinquished any intention of making it his profession, he devoted himself to the art of design. About this time he made a happy hit when he published that series of drawings which seemed to charm the public as if by magic. Go where one would there were "The Gardener's Daughter" and the accompanying series of Frank Miles' sketches. In barristers' chambers and in the rooms of the Universities as well as in those of refined households Frank Miles' name was familiar through his pictorial sketches. In conjunction with his friend, Mr. Oskar Wilde, he for a time acquired some notoriety in connection with the æsthetic movement in art when it was thought the right thing to glorify Sunflowers, to dress oddly, and to eschew all that had before been considered beautiful as a remnant of barbarism and bad taste. But it was at the shrines of Art and Horticulture that Mr. Miles worshipped. Mr. Frank Miles was born on the 22nd April, 1852. He died at the Manor House Abbots Leigh, near Bristol, on Wednesday, the 15th inst., and was buried at Almondsbury, near Bristol, where his brother is vicar, on Saturday last. He had been in weak health for some time, and the immediate cause of his death was paralysis. He was one of the most lovable and loving of men, and all who had the privilege of his friendship will long regret his early death.

— PRESERVING FLOWERS.—The following ancient method which comes from America as new may be worth repeating and trying:—Take very fine sand, wash it perfectly clean, and when dry sift it through a fine sieve into a pan. When the sand is deep enough to hold the flowers in an upright position, take some more sifted sand and carefully cover them. A spoon is a good thing to take for this, as it fills in every chink and cranny without breaking or bending the leaves. When the pan is filled solidly leave the flowers to dry for several days. It is a good plan to warm the sand in the oven before using it, as the flowers will then dry more thoroughly. In taking the sand off great care must be taken not to break the leaves, as they are now dry and brittle. Pansies preserved in this way will keep their shape and brilliancy of colour all winter, and many other flowers can be equally successfully treated—anything, in fact, where the full pressure of the sand comes on both sides of the leaf; otherwise they will shrivel. To fill in flowers with cup-like shapes it is better to lay them on the sand, and with a small spoon fill in and around each flower. Ferns when preserved in this way have a more natural look than when pressed, and the Maiden-hair Fern looks almost as well as when it is freshly gathered.

— BOTHWELL BANK AND DR. LIVINGSTONE STRAWBERRY.—There is within half a mile of my place, at the seat of J. C. Burns, Esq., of Glenlee, a plantation of Strawberries which were sent from Castle Wemyss as pure Bothwell Bank. There are, however, a few plants of Keens' Seedling and one or two others. The main body of them, however, are distinct, and in habit, fruitfulness, and fruit, &c., identical with Dr. Livingstone Strawberry. That does not justify me saying it is Dr. Livingstone, as I have frequently raised seedlings that could not be distinguished from previous existing varieties; besides mistakes may occur in the execution of orders and the exact variety wanted not be obtained. Dr. Livingstone was extensively grown within a few yards of that distinguished traveller's birthplace, as well as on the opposite side of the Clyde, close to where the Bothwell Bank was said to be found growing beneath a Gooseberry bush. New Strawberry plants growing out of the plantation may or may not be seedlings. Jackdaws are numerous in the district, Bothwell Castle being one of their retreats. These birds are proverbial for carrying things from one place to another, and it is not unlikely that a plant of Dr. Livingstone was dropped by them at Bothwell Bank, and taking root might be thought a seedling.—W. T., *Blantyre*.

— ROYAL COUNTIES AGRICULTURAL SOCIETY'S SHOW AT PORTSMOUTH.—We are informed that the Council of the Royal Counties Agricultural Society accepted the offer made by Messrs. Sutton & Sons, Reading, to gratuitously undertake the floral decorations of the Royal box in the grand stand, and the whole interior of the box was tastefully decorated with flowers consisting of Calendulas, Canterbury Bells, annual Chrysanthemums, Clarkias, Delphiniums, Hawkweeds, Linarias, Sweet Peas, and Sweet Williams, from Messrs. Sutton's Seed Trial Farm at Reading. In front of the Royal visitors was a charming display of new Begonia raised by the firm, named the Duchess of Edinburgh, colour white suffused with pink, this being the first time of its exhibition.

— FRUIT PROSPECTS.—The promise of spring was most hopeful of abundant crops of all kinds of hardy fruit. The Whitsuntide frosts did us a little damage, but not much. It thinned the Gooseberries, but still left a good crop on the bushes, which are free from caterpillars. Currants are a heavy crop of all kinds; Strawberries are, and have been, a fine crop, not so large as usual owing to the absence of June rains, but of excellent flavour. The rains seem to have been very partial. We had only 0.89 inch for the month of June, and up to this (20th of July) barely an inch in the twenty days. Cherries are a very good crop; Morellos on walls abundant. Raspberries are very good, Plums most abundant, some trees of Victoria Winesap and Damsons we are having staked and tied to prevent the trees breaking. Apples are only a moderate crop. They generally set well, but many fell in the June drought. Pears a moderate crop, trees fairly healthy, sprayed with quassia and softsoap. The flavour of the new Strawberries—Noble, John Ruskin, and A. F. Barron—with me is most disappointing.—R. MAHER, *Yattendon Court, Newbury*.

— EALING HORTICULTURAL SOCIETY.—The twenty-seventh annual Exhibition of this Society took place on 15th inst. in the beautiful grounds of Hanger Hill House, by kind permission of E. M. Nelson, Esq., J.P., whose gardens, under the able management of Mr. E. Chadwick, are just now in grand order. Some pretty groups of plants, arranged for effect, were displayed. The most successful exhibitors in this department were Mr. Denison, gardener to T. A. Gledstanes, Esq., Old Manor House; Mr. H. Viner, gardener to R. Dawes, Esq., Edmondscote, &c. Mr. E. Chadwick, as usual, came well to the front in the cut flower section, whilst Miss Lilian Hudson, Gunnersbury, was simply invincible in the stands of flowers and foliage for dinner table decorations. In this department very beautiful were the bouquets, showing much taste in composition, contributed by Mrs. H. B. Smith, Court florist, Broadway, Ealing, not for competition. The cottagers, as is always the case here, made a good display of flowers, fruit, and vegetables. Non-competitive groups of plants and flowers, forming distinct and attractive features, were sent by Messrs. C. Lee & Son, Hammersmith, the cut Roses from their Ealing branch being universally admired; Mr. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park; Mr. G. Weeden, St. John's Nursery, Ealing; and Mr. Holden, florist, &c., Acton. The management of the Show reflected the highest credit on the courteous Hon. Secretaries, Messrs. Cannon and Dawes, who worked hard to render the Exhibition a great success, as it undoubtedly was, both horticulturally and financially.

— PINKS AND PEAS AT CHISWICK.—On the occasion of the Chiswick Conference in July a sub-committee selected from the Floral Committee examined the collection of border Pinks growing in the garden, and awarded three marks (xxx) to each of the following varieties:—Her Majesty (Hooper), Beauty of Bath (Hooper), Modesty (Turner), Hettie Dean (Dean), Charmer (Dean), Mrs. Dark (Dean). The Fruit and Vegetable Committee examined the collection of Peas growing in the garden, and awarded three marks (xxx) to the following sorts:—Ameer (Harrison & Sons), Early Green Marrow, Sutton's Empress of India (Sutton & Sons), Early Green Wrinkled. This Committee met again on 14th inst., when three marks (xxx) were awarded to the following varieties of Peas, as representing the best types in the collection:—Duke of Albany (Veitch), tall Green Marrow; Telephone (Veitch), tall Green Marrow; Chelsonian (Veitch), tall Green Marrow; Extra Dwarf Daisy (Carter & Co.), Green Marrow; Critic (Eckford), tall; Essential (Eckford), tall; Epieure (Eckford), tall; The Echo (Eckford), dwarf; Alderman (Laxton), tall; The Marquis (Laxton), tall. Two marks (xx) were awarded to the following varieties:—Sutton's Early Marrow-fat (Sutton & Sons), dwarf; Optimum (Laxton), tall. A first class certificate was awarded to Potato Early Short Top, provisionally named "Laxton," a remarkably fine and early variety. Tubers large, fully grown, greatly in advance of any other variety.



— WE deeply regret to have to announce the death of MRS. PEARSON of the Chilwell Nurseries, Notts, widow of the late Mr. J. R. Pearson. For a considerable length of time Mrs. Pearson had been suffering from a painful malady which terminated her life on the 13th inst. at the age of sixty-six. Mrs. Pearson was buried in the churchyard of Attenborough by the side of her husband.

— READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The members of this flourishing Society had their annual excursion last week, Blenheim being chosen as the rendezvous. According to a lengthy newspaper report which has been sent to us, they were delighted with the gardens and the reception accorded by Mr. T. Whillans.

— OLIVE CULTURE.—I have a rather large order from the United States for young Olive trees (one to two years old) of the best Spanish oil-yielding variety. Can any of your readers inform me from what part these can best be obtained, or put me in correspondence with a firm likely to supply them.—STEPHEN MENZIES, *Liverpool*.

— MESSRS. WEBB & SONS' EXCURSION.—We are informed that the employes of Messrs. Edward Webb & Sons, Stourbridge, visited the beautiful gardens of the Earl of Dudley at Witley Court last week. Major Webb, one of the principals of the firm, accompanied them, and a most enjoyable day was spent.

— DELPHINIUMS.—Messrs. Kelway & Sons have sent us individual flowers of a number of seedling Delphiniums. They appeared fresh in the box, but when taken out the petals fell from all but three—namely, King of Delphiniums, large, purple, very fine; Irene, pale lavender blue, full and attractive; and Britannia, the richest blue we have seen, and very beautiful. We regard Delphiniums as amongst the most stately and beautiful of summer garden flowers, and have them resembling pillars of beauty 8 feet high.

— THE MIDLAND COUNTIES CARNATION AND PICOTEE SOCIETY.—We are desired to remind intending exhibitors that the first Exhibition of this Society will be held at the Botanic Gardens, Birmingham, on Saturday, August 8th, and nearly £70 is offered in prizes. There is every reason to believe that a very fine display of blooms will be seen, especially as there are from six to seven prizes in a class. Notice of entries must reach the Secretary, Mr. W. Dean, Dolphin Road, Sparkhill, Birmingham, not later than the morning of Tuesday, August 4th. No entry will be received after that date. There is a special class for border Carnations.

— TOURIST'S GUIDE AND HOLIDAY HANDBOOKS.—We have received the illustrated Tourist Guide to the Continent, also notes on towns in Holland, Switzerland, &c., well prepared and attractively presented by Mr. Percy Lindley for the Great Eastern Railway Company, and published at 125, Fleet Street. The Continental route to which attention is invited has won a wide reputation, and the scenes depicted in other lands and interesting matter pertaining thereto may well be consulted by persons who are anticipating a holiday trip beyond the confines of the kingdom.

— THE WEATHER LAST MONTH.—June was dull on the whole. We only had three bright days during the month, and no rain fell for a period of seventeen consecutive days—viz., 7th to 22nd inclusive. Wind was in an easterly direction seventeen days. Barometer was highest on the 12th at noon, 30.43; lowest on 29th at 9 P.M., 29.77. Highest shade temperature was 80°, on the 24th; lowest 38°, on 13th; lowest on grass 35°, on 11th. Mean maximum temperature, 68.06°; mean minimum, 49.03°; mean temperature of the month, 58.54°. Total rainfall 2.10 inches, which fell on ten days, the greatest daily fall being 0.70, on the 2nd. The garden spring ran 15 gallons per minute on the 30th.—W. H. DIVERS, *Ketton Hall, Stamford*.

— THE LEICESTER AND MIDLAND CHRYSANTHEMUM SOCIETY.—We have received the schedule of the Show that is to be held on November 13th and 14th. Instead of a great forty-eight bloom class of incurved and Japanese blooms, two classes are provided with a first prize of £5 in each for twenty-four incurved and twenty-four Japanese blooms respectively, and we trust the change will be as satisfactory to exhibitors and the public as it is certain to be to the Judges. A silver cup for twenty-four blooms, twelve incurved and twelve Japanese, grown in Leicestershire is offered by the tradesmen of Leicester. Substantial prizes, to be competed for by working men (not tradesmen nor professionals) are thoughtfully provided by Thomas Brooks, Esq., Barkby Hall.

— TEA ROSES AT REIGATE.—We find that the beautiful bloom of The Bride, which was described as perhaps the finest Rose in the Reigate Show, was in the first prize stand of nine Teas exhibited by Rev. F. Page Roberts, and not by Mr. Bethune as inadvertently stated in our report on page 53 last week.

— PRODUCTIVE TOMATOES.—I read with great interest the letter of Mr. Buchanan in your issue of 9th inst., and if he could find time to give us a little more information on Tomato growing I think many of your readers would be pleased. I should like to know what variety of Tomatoes were grown? The size and form of houses? What distance apart were the plants? How did he treat them as regards manure, water, and heat? and was the price named realised by salesmen in the open market?—A.

— MR. SYMONS' "METEOROLOGICAL MAGAZINE" for June contains an account of producing rain artificially by violent explosions of balloons filled with hydrogen and oxygen gas. It appears the United States Congress had voted a sum of £1800 for defraying the cost of experiments. We are reminded that the idea is not new, but was proposed several years ago, after considering the circumstance of rain falling after great battles in which artillery played a prominent part. A recent experiment in America is said to have had the desired results. When our enterprising friends have accomplished their object of producing rain it may be desirable for them to devise methods for stopping it when too much falls in fruit time, hay time, and harvest, and spoils the crops.

— NATIONAL PINK SOCIETY'S SHOW AT MANCHESTER.—This Exhibition was held in connection with the Rose Show, and the following prizes were awarded:—Twelve laced Pinks.—First, Mr. A. R. Brown, Birmingham. Second, Mr. S. Barlow. Third, Mr. W. Taylor. Six bloom laced Pinks, six varieties.—First, Mr. C. F. Thurstan, Wolverhampton. Second, Mr. A. R. Brown. Third, Mr. S. Barlow. Six blooms, three varieties.—First, Mr. A. R. Brown. Second, Mr. W. Taylor. Third, Mr. S. Barlow, Mr. Brown taking an extra prize for the best red-laced and purple-laced Pink in the Show. Mr. Walkden, Sale, had a miscellaneous collection, and was awarded a prize for a new variety named Souvenir de Sale. The charming flowers were greatly admired.

## NATIONAL CARNATION AND PICOTEE SOCIETY.

### SOUTHERN SECTION.

THE annual Exhibition of this Society was held in conjunction with the Committee meetings of the R.H.S. at the Drill Hall, Westminster, on Tuesday, July 21st. As anticipated from the lateness of the season it was hardly up to the usual point of excellence. A fortnight, or even a week longer, would have made a great difference. Mr. Rowan was quite unable to do himself justice, and Mr. Sydenham and others were unable to compete at all. However, a good display of flowers was obtained, and the Show proved to be an interesting one.

### CARNATIONS.

As on many previous occasions the struggle for first place with twenty-four Carnations resolved itself into a duel between Mr. C. Turner, Royal Nurseries, Slough, and Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford. The blooms are late this year, and will be seen in better condition later on. Nevertheless both were excellent stands. Mr. Turner was first with fresh clean flowers, comprising the following varieties:—Back row: Jupiter, Dr. Foster, Hutchinson's Rose, Juno (two), Clementine, Mrs. Payne, and Squire Potts. Middle row: Jas. Taylor, Dr. Hogg, Jupiter, Robt. Houlgrave, E. Adams, Charles Turner (two), and Squire Trow. Front row: Robt. Houlgrave, Dr. Foster, Saturn, E. S. Dodwell (two), Teresa (two), and Dr. Hogg. Mr. Douglas's flowers were much smaller, but his Thalia, Mrs. Gorton, John Keet, and Mayor of Nottingham were very good.

There were four stands of twelve, Mr. Douglas winning with Sarah Payne, Thalia, James Douglas, William Skirving, Squire Potts, Alisemond, Wm. Wardill, Master Stanley, and four seedlings, one (203) a charming purple flake. Mr. C. Phillips, 18, Hamilton Road, Reading, was second with fresh, bright but small blooms; James Douglas and Mayor of Nottingham were the best. Mr. H. W. Headland, The Firs, Leyton, was third with larger but somewhat rough flowers, and the Rev. L. R. Flood (gardener, Mr. Gilbert), Merrow, Guildford, was fourth. Mr. F. Nutt, 15, Rose Road, Southampton, won with six, Sarah Payne, Crista-galli, John Keet, Jas. Douglas, Joseph Lakin, and Alisemond representing him admirably, though one or two were hardly filled. Crista-galli was a capital example. Mr. J. J. Keen, 15, Castle Street, Bevois Town, Southampton, was second with equally large but rather rough flowers. Mr. T. H. Catley, 16, Claverton Buildings, Bath, was third; Mr. G. Chaundy, William Street, Marston Road, Oxford, fourth; Mr. Rowan, 36, Manor Street, Clapham, fifth; and Mr. Sanders, gardener to Viscountess Chewton, Bookham Lodge, Cobham, sixth.

*Single Specimens.*—In the scarlet bizarres Mr. J. Keen was first with Squire Potts, Mr. Douglas second with Robert Houlgrave, and third



with Master Stanley; Mr. Lakin fourth with Mars, and Mr. Chaundy fifth with Admiral Curzon. In the crimson bizarres Mr. Douglas was first with a seedling, and third with Wm. Skirving; Mr. Hooper second with Squire Dodwell, Mr. Phillips fourth with Harrison Weir, and Mr. Headland fifth with J. D. Hextall. In the pink and purple bizarres Mr. Nutt was first with Sarah Payne, Mr. Douglas second with the same variety, Mr. Headland third with Squire Llewelyn, and Mr. Turner fourth with James Taylor. In the purple flakes Mr. Douglas was first with his seedling before referred to (203), Mr. Sanders second with James Douglas, Mr. Rowan third with the same variety, Mr. Hooper fourth with a seedling, and Mr. Turner fifth with Squire Trow. In the scarlet flakes Mr. Douglas was first with Cannell, jun., and third with Alismond; Mr. Keen second with Matador, Mr. Headland fourth with Henry Cannell, and Mr. Phillips fifth with Sportsman. In the rose flakes Mr. Lakin was first with Mrs. Gibson and third with Lovely Mary, Mr. Douglas second and fifth with Thalia, and Mr. Hooper fourth with Mrs. George Cooling.

#### PICOTEES.

The leading class for Picotees was a repetition of that for Carnations, only Mr. Turner and Mr. Douglas being able to muster a presentable twenty-four stand. They were first and second as before, Mr. Turner winning with the following:—Back row: Madeline (two), Favourite (two), Clara Penson, and three seedlings. Middle row: Miss Flowdy, Clara Penson, Lucy, Mrs. Rudd, and four seedlings. Front row: Mrs. Sharp, Mrs. Rudd, and six seedlings. These were a clean and well finished collection. Mr. Douglas's flowers were somewhat uneven in point of size, but they were in capital condition. The best of the three stands of twelve came from the Ilford grower, and it was a charming collection, the varieties being Liddington's Favourite, Brunette, Muriel, Thomas William, Miss Flowdy, Mrs. Sharp (two), Clara Penson, Violet M. Douglas, Mrs. Chancellor, John Smith, and a seedling. Mr. Phillips was a fair second, his flowers, though small, being very fresh and good in colour. Mr. Headland was third. There were five stands of six, Mr. Chaundy winning with Amelia (very good indeed), Annot Lyle, Winifred Esther, Mrs. Rudd, Juliette, and a seedling. Mr. Nutt was a close second, Mr. Sanders third, Mr. Catley fourth, and Mr. Flood fifth.

*Single Specimens.*—In the heavy red edge class Mr. Lakin was first and second with Isabel Lakin, Mr. Douglas third with Brunette and fourth with a seedling, and Mr. Phillips, judging by his bloom, fifth with Brunette, although a fourth card was affixed. In the light red edge Mr. Phillips was first and fifth with Thomas William, Mr. Douglas second with Violet Douglas and third with Thomas William, and Mr. Headland fourth with Mrs. Gorton. In the heavy purple edge Mr. Lakin was first and third with Amelia, Mr. Chaundy second and fourth with the same variety, and Mr. Douglas fifth with Muriel. In the light purple edge Mr. Turner was first and second with Clara Penson, Mr. Douglas third with Silvia, Mr. Phillips fourth with Clara Penson, and Mr. Headland fifth with Pride of Leyton. In the heavy rose edge Mr. Phillips was first with Mrs. Ricardo and third with Mrs. Sharp, Mr. Douglas second with the latter variety and fifth with Constance Heron, and Mr. W. Nicholls fourth with Lady Holmesdale. In the light rose edge Mr. Turner was first and third with Liddington's Favourite, Mr. Douglas second and fifth with a seedling, and Mr. Phillips fourth with Mrs. Ricardo. In the yellow grounds Mr. Douglas was first and second with a seedling, Mr. Turner third and fourth with Annie Douglas, and Mr. Headland fifth with a seedling.

Mr. Douglas had a charming box of twelve yellow grounds, all seedlings, unnamed, and Mr. Headland was second, also with seedlings. Mr. Chaundy won with six, showing Peter Barr, Stadtrath Bail, and four seedlings. Mr. Hooper, Vine Nursery, Bath, was a very good second, and Mr. Phillips third.

#### SELFS AND FANCIES.

Included in this section are some of the most beautiful and valued of Carnations and Picotees. The class for twenty-four brought out five stands, and Mr. Turner secured the first place with the following in charming condition. Back row: Almira (two), Victory (two), Hutchinson's Rose, Mrs. Reynolds Hole (two), and Alice Ayres, all the blooms being very fine. Middle row: Annie Douglas (two), Lord Rendlesham (two), Mrs. Maclaren, Ruby, and two seedlings. Front row: Ruby, Chas. Turner, Fimbriata alba (two), Germania, Duchess of Fife, Robt. Houlgrave, and Mrs. Maclaren. Mr. F. Hooper was second, also with a delightful stand, but some of the flowers were undersized and others imperfectly filled. Mr. Douglas was third with a large proportion of selfs, Mr. Catley fourth, and Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton Hall, Stamford, fifth. There were eight stands of twelve, and they produced a lovely display. Mr. Rowan at last gained his old position of first, and he certainly had a splendid stand. The varieties were Purple Emperor (a grand bloom), Comtesse de Paris, Mrs. Reynolds Hole, Vice-President, Edith, Rose Celestial, President, Dodwell's 614, Mdlle. Darquille, Mrs. Du Croz, Prince of Wales, and Lady Agnes. Mr. Nutt was a good second with a very attractive stand, the blooms being large, fresh, and finely coloured. Mr. Phillips was third, Mr. Chaundy fourth, Mr. Headland fifth, and Mr. Sanders sixth.

The premier Carnation was H. Cannell, a scarlet flake in Mr. J. Keen's second prize stand of twelve, and the premier Picotee was Madeline, heavy rose edge, in Mr. Turner's first prize stand of twenty-four.

Specimens in pots were best shown by Mr. J. Douglas, the second prize going to Mr. Headland. The former had excellent examples.

A first-class certificate was awarded for Dr. Hogg, a scarlet bizarre Carnation in Mr. Turner's twenty-four stand; for Niphetos, a beautiful

white self of which flowering plants were shown by Mr. C. Blick, The Warren, Hayes Common; and for a scarlet seedling self, named Lady Gwendolen, apparently from the same exhibitor.

Mr. Martin Smith's prizes for border Carnations were withheld owing to lack of competition.

#### ROYAL HORTICULTURAL SOCIETY.

JULY 21st.

THE Drill Hall was again filled with exhibits. Four rows of tables the length of the Hall, besides some at the top, were occupied with plants, flowers, and fruits, the display of the last-named being very extensive and by far the best of the present season. A large portion of one row of tables was devoted to the Carnation and Picotee exhibition, while Orchids, hardy flowers, Roses, and miscellaneous exhibits were also represented by important contributions.

**FRUIT COMMITTEE.**—Present: P. Crowley, Esq., in the chair, with Dr. Hogg and Messrs. John Lee, T. F. Rivers, James H. Veitch, R. D. Blackmore, G. Norman, G. W. Cummins, J. Cheal, G. Bunyard, J. Willard, W. Denning, G. Wythes, H. Balderson, J. Hudson, J. Smith, T. J. Saltmarsh, F. Q. Lane, and J. Wright.

This was one of the most interesting meetings yet seen in the Hall. The Cherries, especially from Messrs. T. Rivers & Son, were marvellous, and the collection of Gooseberries and other small fruits from Messrs. James Veitch & Sons remarkable. The Ketton Hall Peaches and Gunton Park Strawberries were features of the day, and Messrs. James Carter & Co. contributed effectively to the vegetable department with a great assortment of Peas.

The first dishes placed on the table for examination were the Peaches just referred to from Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton Hall, Derby. The six dishes consisted of Royal George, Sea Eagle, Barrington, the Nectarine Peach, Prince of Wales, and Princess of Wales. The five Sea Eagle fruits weighed 4 lbs. 9 ozs., the largest 12½ inches in circumference and weighed 16½ ozs. No such fruits have been previously submitted, and a silver medal was unanimously recommended. Mr. A. H. Rickwood, gardener to the Dowager Lady Freake, Fulwell Park, Twickenham, sent dishes of Dr. Hogg and Grosse Mignonne Peaches, large but pale, and a cultural commendation was awarded.

A new and oval shaped Melon was sent by Mr. B. Ashton, gardener to Lord Howard of Glossop, named Pride of Glossop, but distinctly over-ripe, also a very large ribbed fruit, but the flesh was too soft, and not of high quality. Two Melons were also sent by Mr. G. H. Mould, The Gardens, Frampton Court, Dorchester, but not in condition to merit any award.

F. Crisp, Esq. (Mr. H. A. Page, gardener), White House, New Southgate, sent a good dish of Lord Napier Nectarines, also excellent Cannon Hall Muscat Grapes, and a vote of thanks was unanimously awarded. Mr. T. H. Crisp sent from Canford Manor a small fruiting bush of what he described as a "new" White Currant. This was recognised as the old Cut-leaved or Shilling's White; somewhat small, but the fruits sweet. Mr. Crisp also sent a dish of Figs Ursule d'Avignon, but not equal in quality to many other varieties.

Mr. Allan, gardener to Lord Suffield, sent from Gunton Park his seedling Strawberries, one a large dark firm fruit of excellent quality being certificated under the name of Lord Suffield. A still larger variety named Gunton Park was also similarly honoured, the fruits being of huge size and of good colour and quality. Empress of India was richly flavoured, but considered somewhat too small. Plants of the varieties were also exhibited for showing their vigour and productiveness. Mr. Allan also sent magnificent fruits of Dr. Hogg Strawberry, for which a cultural commendation was unanimously awarded.

Mr. Crook, Ford Abbey, Chard, sent dishes of two seedling Tomatoes, a bunch of fifteen fruits of one weighing 4 lbs. The fruits were corrugated, and received no award.

Mr. W. A. Cook, gardener to Major Heneage, The Gardens, Compton Bassett, sent six dishes of Peas, the best being The Duchess, and a vote of thanks was awarded.

Dr. Hogg brought a fruiting branch of the Early Julyan Apple to show the character of the variety in the Weald of Sussex. There were forty-six fruits in a length of 3 feet, most of them being highly coloured. In most districts they are pale. It is a very early and useful Apple, much grown in some of the London market gardens. A vote of thanks was accorded.

Some very large Apples were sent through the Secretary of the Wellington Horticultural Society, New Zealand. They had been packed in charcoal, and been forty-two days in transit. They were all more or less decayed and worthless. The thanks of the Committee were recorded for the endeavour that had been made in sending the specimens to arrive in good condition.

Mr. Rivers had dishes of his new Plums Heron and Curlew placed on the table. They are medium size purple Plums with very firm flesh, and it was thought they would be suitable for drying. For this purpose they will be tried at Chiswick later in the season. Some of his new Nectarines were also tried, and their splendid flavour, imparted by the Stanwick, promptly admitted.

The Sawbridgeworth collection of fruit on the side table was next examined. There were sixteen boxes of such Cherries as have, perhaps, not been seen before, gathered from trees in a cool orchard house. There were also twelve dishes of Peaches, as well as several of Nectarines and Plums. A large silver-gilt Banksian medal was unanimously recommended for the collection. The Black Cherries



comprised Bigarreau Noir de Gueben, D'Espagne, Bedford Prolific, Large Black Bigarreau, Early Rivers, Black Hawk, and Turkey Black Heart; Reds: Griotte Imperiale, May Duke, and Emperor Francis; Amber Coloured: Bigarreau, Monstreuse de Mezel, Ludwig's Bigarreau, and White Bigarreau.

Messrs. J. Veitch & Sons had no less than 250 dishes of fruits in the Hall, also dozens of eordon branches of Gooseberries densely laden with their crop. A number of these were tied upright to a trellis for showing the adaptability of the Gooseberry to that method of culture, and in no other way could an equal weight of fruit be obtained on the same space of ground. Among the Raspberries in the collection Superlative was the finest, followed by Northumberland Fillbasket, Magnum Bonum, and Carter's Keighley Queen. Waterloo was conspicuous among the Strawberries, and among Currants, Red Versailles, White Transparent, and Lee's Black Prolific. A large silver-gilt Banksian medal was unanimously recommended for this great display.

Messrs. James Carter & Co. exhibited a fine representative collection of Peas, comprising eighty varieties, all sown on April 3rd, so that the relative earliness of the varieties was apparent. Some were ripe and ready for sowing again, others with huge full pods, and the later sorts still swelling to maturity. A silver medal was proposed for the collection, and not a hand was held up against it.

At the close of the ordinary duties of the Committee Mr. Rivers stated he had a resolution to propose bearing on the subject of fruit culture, which was now commanding attention. He said the Minister of Agriculture, in speaking at the Guildhall last week, did not appear to know the Royal Horticultural Society had a special Committee of the most competent men, and he thought the Society ought to take a more prominent position, and lead the way instead of being left behind, as an authority on the subject of fruit, especially as they possessed such a great collection of trees and varieties in their gardens. Mr. Rivers concluded his remarks by proposing the following resolution:—

"That it is desirable that the Royal Horticultural Society, acting through its Fruit Committee, should endeavour to guide farmers and others, who are intending to plant, in the choice of the best and most profitable sorts of fruits, and that a leaflet should be prepared by the Committee with the necessary information, and that such leaflets be distributed by the Royal Horticultural Society in the widest possible manner."

Mr. J. Wright, in seconding the resolution, said he had sometimes thought the Council were waiting for some expression of the views of their Fruit Committee on this question. It was most desirable and appropriate that the Society should, as they could, give good advice to all who need it on the subject of useful fruit production, and he was sure the Council would give the best consideration to the resolution. Mr. Bunyard and Mr. Crowley gave their strong approval to the object in view, and the resolution was passed unanimously. Dr. Hogg remarking he thought the Committee had done a good day's work.

FLORAL COMMITTEE.—Present: W. Marshall, Esq., in the chair; B. Wynne, W. Goldring, H. Herbst, H. B. May, F. Ross, G. Phippen, C. E. Pearson, J. T. Bennett, Pöe, T. W. Girdlestone, H. Turner, C. Noble, R. Dean, G. Ingram, G. Paul, and Dr. M. T. Masters.

Lilies were admirably shown by Mr. T. S. Ware, Tottenham, many beautiful varieties as well as the more distinct species being included. Veing notable was L. Humboldti with large rich orange dark spotted flowers, and with it was a hybrid named Amos Perry, said to be the result of a cross between L. pardalinum and L. Humboldti, partaking largely of the floral characters of the latter, but with rather smaller and more yellowish flowers. The exceedingly dark L. Martagon dalmaticum was noticeable in contrast with the lighter varieties. The brilliant scarlet L. chalcidonicum, the buff L. testaceum, the graceful L. canadense, and the stately L. giganteum were also well shown (silver Banksian medal).

A large group of Lilies similar to the above also came from Messrs. Paul & Son of Cheshunt, but with them were numerous choice hardy plants, and seven boxes of fresh bright and beautiful Roses, as well as some of the varied Cannas noted at a previous meeting. Especially welcome were the Roses, and many of the blooms would have occupied an important position in a competitive stand (silver Flora medal).

Too seldom are hardy ornamental trees and shrubs seen at these meetings, and the collection of cut branches from Messrs. J. Veitch and Sons, Chelsea, was therefore all the more attractive. Maples, Oaks, Nuts, and many other types were represented in golden, red, and variegated forms, showing much diversity in tints and foliage forms (silver Flora medal).

Verbenas are among the plants that were at one time frequently shown at the meetings of this Society, but are now rarely seen. On Tuesday last, however, Mr. W. Stacey, Dunmow, exhibited a box of about thirty-six trusses, including a selection from a large number of varieties raised during many years' attention to these plants. Some of the best were Arntillo, large flowers of a peculiarly bright pink colour, most handsome and effective; Acquisition, bright rosy salmon; Distinction, white flaked scarlet; Dr. Feyerlin, deep purple shaded; Falstaff, purple, white centre; Imperial Blue, blue, white centre; Lady Brooke, brilliant pink, dark centre; Maud, crimson with bluish centre; Purity, white; Rising Sun, extremely bright scarlet; and Rosy Morn, clear rose (silver Banksian medal).

Hardy flowers were capitally shown by Messrs. Kelway & Son, Langport, Gaillardias and Delphiniums being the chief features in an extensive display, and of both the varieties were of remarkable merit (silver Flora medal). Though not occupying so much space the group of hardy flowers from Messrs. Laing & Sons, Forest Hill, were equally as interesting, as it comprised many useful border plants. Gaillardias, Alstroemerias, Lilies, Pansies, Stocks, and innumerable other popular plants were included. Two fine double Tuberos Begonias were also

shown, named respectively Madame Tolpin, salmon pink; and Felix Margot, brilliant scarlet (silver Banksian medal).

From Mr. H. Eekford, Wem, Salop, came a pleasing collection of Sweet Peas, both new and recent varieties, several of the former being selected for certificates. Mr. William Rumsey, Waltham Cross, had nine boxes of Rose blooms as fresh and bright as could be wished, and far more than could have been expected after such heavy rains (silver Banksian medal). Messrs. W. Paul & Son, Waltham Cross, showed several boxes of new Roses; the pink Hybrid Perpetual Spenser and the Tea Corinna, both fine varieties that have been repeatedly noted before, were the most conspicuous.

From Messrs. J. Carter & Co., High Holborn, came plants of the dwarf yellow African Marigold named Carters' Golden Ball, with large well-developed blooms, and of very compact habit. Mr. A. Rawlings, Old Church, Romford, sent blooms of Dahlia Mrs. Ocock, the florets yellow tipped with red. M. V. Lemoine, Nancy, France, showed a large double Fuchsia, the petals pink, and the sepals bright red. From Mr. Munro, Milborne Port, Somerset, came a pink Vallota named Mrs. Hector Munro, which had pale blush tinted flowers, a most interesting departure from the ordinary type. E. H. Preston, Esq., The Hollies, Woking, sent a large plant named "the African Dandelion," with large yellow flower-heads in terminal clusters, and long sinuated leaves (vote of thanks).

Two collections of Carnations that seemed to form part of the Carnation Show, but which came under the notice of the Floral Committee, were the following. A grand exhibit of Souvenir de la Malmaison Carnations in the different types from Messrs. Laing & Mather, Kelso, N.B., well deserved the silver Banksian medal awarded for them. The red variety, Madame A. Warocqué, the pink striped Lady Middleton, the "Pink Malmaison," and the "Blush Malmaison," were equally beautiful, the blooms of good size, clean, and fresh, and being shown with their foliage they had a charming appearance. The yellow Carnation Germania was also admirably shown. Messrs. J. Veitch & Sons also exhibited four boxes of Carnation and Picotee blooms cut from the open ground, and representing a selection of the most effective border varieties, as well as the best of those in the chief show classes (bronze Banksian medal).

ORCHID COMMITTEE.—Present: Harry J. Veitch, Esq., in the chair, and Messrs. J. O. Brien, S. Courtauld, T. B. Haywood, H. Williams, J. Douglas, E. Hill, C. Pileher, H. Ballantine, H. M. Pollett, A. H. Smee, and Dr. M. T. Masters.

Saccolabiums are regarded by many as unpopular Orchids, but their beauty when well grown cannot be denied. Seldom, however, do visitors to public displays have an opportunity of seeing Saccolabium Blumei in such condition as it was shown by the Marquis of Salisbury, Hatfield (gardener, Mr. G. Norman), at the meeting on Tuesday. About thirty long racemes were sent cut from the plants, and placed in bottles of water. Some of the racemes were 18 and 20 inches long, and the fragrance filled a good portion of the hall (silver Flora medal).

Disa grandiflora, from the Duke of Devonshire, Chatsworth (gardener, Mr. O. Thomas), formed another important group, and afforded an opportunity to many of seeing how well these Orchids are grown at Chatsworth, and also how handsome they are when in good condition. Twenty plants were exhibited, some with seven or eight spikes each, and the latter bearing from five to seven flowers, large and of brilliant colour (silver Flora medal).

A group of Cattleya gigas from J. W. Temple, Esq., Tunbridge Wells (gardener, Mr. E. Bristow), made a capital display, the flowers being abundant and brightly coloured. Several especially fine varieties were included, and a late C. Mendeli, together with Trichopilia tortilis alba (silver Banksian medal).

An exceedingly fine group of Orchids and foliage plants came from Messrs. B. S. Williams & Son, Upper Holloway, in which Cypripediums largely predominated, and the handsome C. Morganæ was remarkably well shown, the plants healthy, and the flowers numerous. Vandas formed the background, well developed healthy plants bearing numerous spikes of flowers, the yellow and brown Oncidium Curtisi and the white Calanthe veratrifolia were also notable (silver Flora medal). Messrs. Sander & Co., St. Albans, sent several fine varieties of Odontoglossum crispum and freely flowered Masdevallias. Messrs. Seeger & Tropp, Dulwich, exhibited a good plant of the white flowered Dendrobium Deari, and Aerides maculosum Prewett's variety, having a large raceme of flowers with deep crimson lips. Messrs. Pitcher & Manda, Swanley, sent a hybrid Cypripedium, named C. Browni, the result of a cross between C. magniflorum and C. leucorrhodum. It has soft pink petals with a light dorsal sepal and lip.

#### CERTIFICATED PLANTS.

*Cattleya Hardyana Hamar Bass variety* (Mr. Hamilton, gardener to Hamar Bass, Esq., Byrkley, Burton-on-Trent).—A grand variety, the flowers of good size and shape, the sepals and petals broad and very dark crimson, with a few lighter veins in the petals. The lip was magnificent, rich red in the throat, the apical half an intense magenta, broad and undulated at the margin (first-class certificate).

*Allamanda Williamsi* (B. S. Williams & Son).—This beautiful stove plant is said to be a hybrid, but the parentage was not stated. The flowers are of moderate size, but produced very freely near the points of the branches, and are of a bright golden tint, very effective. The leaves are narrow and tapering, and the habit appears to be compact. It is a decided acquisition (first-class certificate).

*Cochlidia Noezbiana* (B. S. Williams & Son).—A neat little Orchid with bright red flowers in slender racemes. The lip is distinctly three-lobed, with a yellow crest at the base (botanical certificate).



*Ivy-leaf Pelargonium Beauty of Castle Hill* (R. Owen).—A very effective variety, with large double brilliant pink flowers in good trusses. The leaf is bright green, Ivy shape, and without the zone (award of merit).

*Rudbeckia californica* (Paul & Son).—A show Composite with bright gold ray florets, long and drooping. The disk is dark, and  $1\frac{1}{2}$  to 2 inches high (award of merit).

*Sweet Peas* (Eckford).—*Venus*, a peculiar soft buff tint, very

#### MR. EDWARD MAWLEY.

WITH much pleasure we present our readers with a portrait of Mr. Edward Mawley, one of the Honorary Secretaries of the National Rose Society, and an earnest amateur horticulturist. To rosarians Mr. Mawley is well known throughout Great Britain, and his close association with the Rose Society for over twelve years has enabled

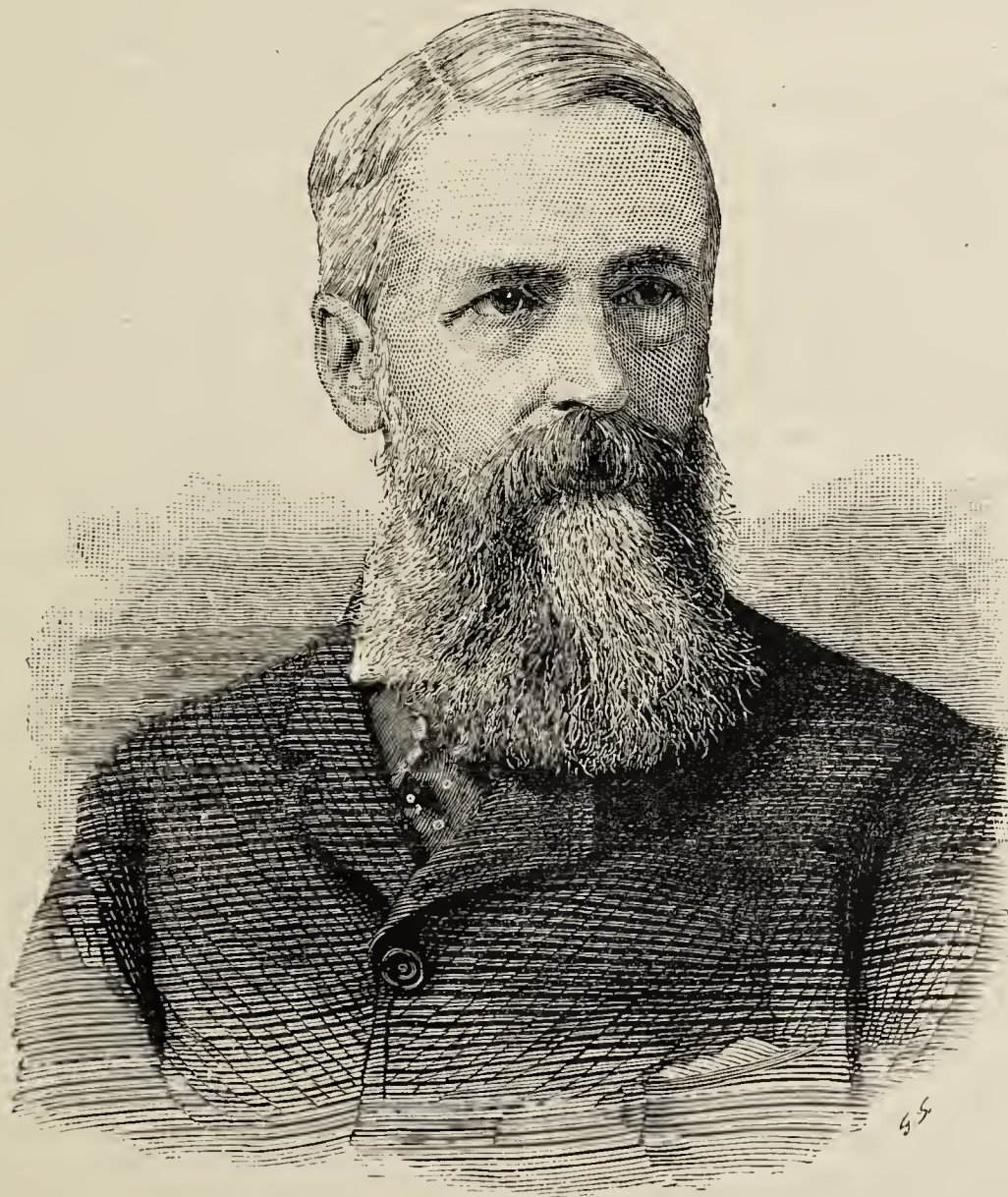


FIG. 11.—MR. EDWARD MAWLEY.

distinct; *Lady Penzance*, bright rose, standard darker, flowers large; *Mrs. Eckford*, creamy yellow, a soft pleasing tint (awards of merit).

*Pteris serrulata pendula* (Mr. F. Lane, gardener to G. Standford, Esq., Horsham).—A most graceful variety, the pinnae long and narrow, terminating in finely cut crests (award of merit).

*Spiraea Bumalda* var. *Beauty of Knap Hill* (A. Waterer).—This was shown as a variety of *S. callosa*, but was decided to be a form of *S. Bumalda*, having large heads of pale pink flowers (award of merit).

*Delphinium Zalil* (Kelway & Sons).—A peculiar Larkspur with small yellowish flowers in a short dense spike (botanical certificate).

him to help very materially in promoting the general interest in his favourite flower. As a cultivator, too, he has had no small degree of success, and although he has usually confined his exhibits to the smaller classes, most creditable blooms have been contributed from his gardens—first at Croydon and now at Berkhamstead—that have taken a good position in sharp competition, for his record comprises 200 first prizes, besides at least 100 others. The Chrysanthemum has also had a good share of his attention, and he has proved in many ways how broad are his horticultural tastes and sympathies.



To our readers Mr. Mawley's work is familiar in the carefully tabulated lists of exhibition Roses, Dahlias, and Chrysanthemums which have appeared from time to time, and which have been rendered additionally interesting by the comparisons with previous years' lists. The advance or decline in popularity of certain varieties can thus be watched, and the rise of worthy novelties noted.

As a meteorologist Mr. Mawley has also gained considerable fame, for he has devoted many years to extensive observations and accurate records, a summary of which in their special relation to Roses has appeared annually in the "Rosarian's Year Book." He has contributed to the Royal Meteorological Society's work in many departments, and besides being a member of the Council of that body has also undertaken the charge of the Phenological section. This was recently referred to in these pages, and dealing as it does with the natural phenomena which came especially under the observation of horticulturists, it is a matter well worth the attention of gardeners. Mr. Mawley is a Fellow of the Royal Horticultural Society, a member of the Floral Committee, and a frequent attendant at the Drill Hall and other meetings.

### NATIONAL PINK SOCIETY.

#### MIDLAND SECTION.

THE first Exhibition was held in connection with the Wolverhampton Great Exhibition, July 14th, 15th, and 16th.

In Class 1, twelve blooms of laced Pinks, dissimilar, the first prize went to Mr. M. Campbell, Blantyre, N.B., with Modesty, very fine; Boiard, Mary Anderson, Devise, Lowlander, Emmeline, George Kennedy, Princess of Wales, Empress of India, Elizabeth, Samuel Barlow, and Sensation. Second, Mr. Thurstan, Cardiff.

Class 2, twelve blooms of laced Pinks in not less than six varieties.—First, Mr. A. R. Brown, Crompton Road, Handsworth, Birmingham, with Fred Hooper, Boiard, Zoe, Amy, very fine; Empress of India (2), fine; Modesty (3), fine; Rosy Morn, George White, and Victory. Second, Mr. M. Campbell.

Class 3, six blooms of laced Pinks, dissimilar.—First, Mr. Brown, with Rosy Morn, Amy, Boiard, Modesty, George White, and Empress of India. Second, Mr. Thurstan, who had a fine bloom of John Dorrington in his stand. Third, Mr. F. Morton, Wolverhampton. Fourth, Mr. Bason, Wolverhampton. Fifth, Mr. Campbell.

Class 4, six blooms of laced Pinks in not less than three varieties.—First, Mr. Brown, with Amy (2), Modesty (2), Eurydice, and Victory. Second, Mr. C. F. Thurstan, Penn Fields, Wolverhampton, who had two good blooms of George Hodgkinson in his stand. Third, Mr. Morton. Fourth, Mr. Bason. Fifth, Mr. James Thurstan.

Class 5, three blooms of laced Pinks, dissimilar.—First Mr. Brown, with three very fine blooms of Amy, Modesty, and Rosy Morn. Second, Mr. C. F. Thurstan.

Class 6, single bloom, purple laced.—First, Mr. Brown, with Modesty. Second, Mr. C. F. Thurstan. Third, Mr. Brown. Fourth and fifth, Mr. Campbell, with Modesty.

Class 7, single bloom, red laced.—First and second, Mr. Brown, with Empress of India. Third, fourth, and fifth, Mr. James Thurstan, with seedlings.

Premiers, purple laced.—Mr. A. R. Brown, with his grand seedling Amy, a wonderful fine bloom in his first prize stand of twelve red laced; also to Mr. Brown for Empress of India in the same stand.

For six bunches of miscellaneous Pinks, border varieties.—First, Messrs. Thomson, Birmingham, who also set up a collection of leading kinds, including their beautiful light rose-ground laced seedling, "Mrs. Thomson," which well deserved a certificate.

Non-competing collections were also exhibited by Mr. C. Turner, Slough, to whom a certificate of merit was awarded, and this stand contained blooms of The Rector (Fellowes) a flower of good quality. A certificate of merit was awarded to Mr. Robert Sydenham, Birmingham, for three fine blooms of his fine variety, The Rector; also for three blooms of Mr. Lakin, white self with faint pink markings in the centre.

### ROSE SHOWS.

#### ELTHAM.—JULY 11TH.

AMONGST the many Rose Shows it has been my pleasure to attend during the past twenty years, there is none where the surroundings (I hate the modern cant term environment) are so charming as this. Only eight miles from the huge metropolis with all its din and clatter; the quaint old house, with the adjoining rooms of the banqueting hall where some of our kings feasted,

"And it was merry in the hall  
When the beards wagged all;"

the moat (now dry) which once surrounded the Palace; the wooden bridge across it clothed with Virginian Creeper, which must in autumn be very lovely; the beautiful trees, the house clothed in "greenery," and the rich pasture land, all tend to make a scene of perfect loveliness unique almost in its character, and certainly so as far as the neighbourhood of London is concerned. The moat has been converted into a Rose garden, and here it is that my good friend Mr. Bloxam cultivates his favourites, and as one walks round and sees the alterations made—

here, for instance, is a bed of Viscountess Folkestone—now since I was last here there is a very pretty tender rose-coloured flower which I have not seen anywhere else, and which I believe is only to be found in Ketten's list, Julie Gaulain. I do not know any Rose quite of the shade of colour, and it is a well formed and good Rose. Then there is a climbing Rose, Alice Gray, very sweet and pretty in colour, and an especial favourite for decorative purposes. Here, too, are L'Idéale and William Allen Richardson, both charming for the same purpose. I have said that the evergreens thrive well, but I think the most wonderful evergreen is my friend himself. Coming to a plot where there are stocks ready for budding. "There," said he, "I must soon begin at those 500 to bud them." I stared. The speaker was eighty-two years of age. One knows what sharpness of sight, steadiness of hand, and physical endurance is required for the operation, and that anyone at that age should undertake it seemed to take away one's breath; and then he added, with a quiet twinkle of his eye, "The doctor tells me I must not stoop!" Take note of this, you young sparks, some of you, who are always complaining of the "beastly work," to use your own elegant phraseology, of having to bud your Roses (these were dwarfs remember), and keep away from such murmurings for the future.

But now for the Exhibition; it was not a large one, it never is, and this year the fixtures of Reigate and Bexley for the same day much interfered with it, the former detaining Mr. West, and the latter Mr. Fuller. Here were the Roses, there was a nice collection of plants well grown, and healthy, some Fuchsias being especially good. There was a very nice exhibition of cottagers' productions, widening the interest in the Exhibition.

In the class for eighteen Roses, amateurs only, Mr. Shea was first with Ulrich Brunner, François Michelon, Madame G. Luizet, Countess of Rosebery, Mrs. John Laing, Heinrich Schultheis, Pride of Waltham, Captain Christy, Reynolds Hole, Duke of Edinburgh, Marie Verdier, Marie Baumann, Marie Finger, Etienne Levet, Duchesse de Morny, and Prince Arthur. Mr. Harris was second. In the class for twelve Mr. A. Bryant was first with Viscountess Folkestone, Heinrich Schultheis, Madame G. Luizet, Madame Isaac Pereire, La France, Countess of Rosebery, Baroness Rothschild, Alfred Colomb, Ulrich Brunner, Camille de Rohan. Mr. Shea was second, and Mr. Teesdale third. In the class for four trebles Mr. Bloxam was first with Madame G. Luizet, Eugène Verdier, Général Jacqueminot, and Victor Hugo. Mr. Harris was second. In the class for six varieties, distinct, Mr. Bryant was first with Captain Christy, Madame Isaac Pereire, Abel Carrière, Madame G. Luizet, La France, and Ulrich Brunner. Second, Miss Bryant. Third, Mr. Sumner. In the class for six Teas Mr. Teesdale was first with Souvenir d'un Ami, Souvenir de Thérèse Levet, Madame de Watteville, William Allen Richardson, Rêve d'Or, and Marie Van Houtte. Mr. Kebbel was second. In the class for six of any one sort Mr. Shea was first with Madame G. Luizet, and Mr. Bloxam was second with Viscountess Folkestone. In the nurserymen's classes, in the class for twenty-four distinct Roses, Mr. Frank Cant was first. His Roses were Ulrich Brunner, Mrs. J. Laing, Prince Camille de Rohan, Heinrich Schultheis, Général Jacqueminot, La France, Alfred Dumesnil, Lady Mary Fitzwilliam, Madame G. Luizet, Victor Hugo, The Bride, Lady Helen Stewart, Maréchal Niel, Susanne Radocanachi, Merveille de Lyon, Countess of Rosebery, Duke of Edinburgh, Mrs. Dickson, Dupuy Jamain, Mrs. Bennett, Prince Arthur, Madame Montet, Duchess of Bedford, and Catherine Mermet. Messrs. Paul & Son were second, and Mr. B. R. Cant was third. For twelve varieties Mr. B. R. Cant was first with Général Jacqueminot, Ulrich Brunner, Baroness Rothschild, Annie Wood, Abel Carrière, Mrs. John Laing, Duke of Edinburgh, Madame G. Luizet, Prince Arthur, Heinrich Schultheis, Merveille de Lyon, and Earl of Pembroke. Mr. Frank Cant was second, and Messrs. Paul and Son third. In the class for twelve Teas Mr. B. R. Cant was first with Catherine Mermet, Souvenir de Sarah Prince, Jules Finger, The Bride, Niphotos, Madame Cusin, Rubens, Comtesse de Nadaillac, Madame de Watteville, Devoniensis, Hon. Edith Gifford, and Innocente Pirola.

The silver medal for the best Tea Rose in the Show (amateur) was awarded to Mr. R. Bloxam for Marie Van Houtte. There were a number of very pretty vases and baskets arranged with Roses, also table decorations, some of which were very pretty. The day was fine, and a large number of persons visited the Show.—D. Deal.

#### NATIONAL ROSE SOCIETY.—HEREFORD, JULY 16TH.

WHEN the Committee of the National Rose Society received an invitation from the Hereford and West of England Rose Society to hold their provincial Show for 1891 in the ancient Cathedral City of the West it was felt that there was a peculiar fitness in holding an exhibition there, for it was some thirty years ago at the hospitable board of Mr. John Cranston that the idea of a National Society for the Rose was first started. It bore fruit in the first National Show, which the Dean of Rochester, then Reynolds Hole, energetically and successfully carried out. But it was not until more than fifteen years after that the National Society was established; and although frequently the idea of holding its Show at Hereford was mooted, it was not until the removal of the Rev. F. R. Burnside to the neighbourhood that any serious steps were taken. He had already been the originator and moving spirit of Rose shows at Farningham, Moreton-in-the-Marsh, and Gloucester; and when he became the Secretary of the Hereford Society all who knew him felt that it would not be long before the National would find itself there. There were many who shook their heads. It was so out of the way, the train accommodation was so indifferent, the city was so small, and the neighbouring places so thinly populated, they felt sure it would



not be a success; but it was, and I have the pleasure of recording that, taking it all in all, it was the most successful provincial show the National has ever held. Birmingham was last year looked upon as our greatest success, but now it is exceeded by Hereford; a larger number of Roses were exhibited, and the gate money greatly exceeded that taken at the big city. Then exhibits came from all parts of the kingdom. Not only were the western counties represented, but Kent, Surrey, Essex, Sussex, Suffolk, Norfolk, Hertfordshire, and the midlands were represented but Yorkshire. Scotland sent her contingent, and so the Green Isle, while a hearty welcome was provided by the chief magistrate for the Judges, exhibitors, and officials connected with the Show. The Society have received many a warm welcome, but perhaps we may say never one so hearty and so generous as that received here. The difficulty of railway communication was overcome by the Great Western Railway consenting to run a special train from Gloucester, so as to enable those who left London by the 9.15 to travel on the same night and reach Hereford in the small hours of the morning. All the arrangements were excellently carried out by Mr. Burnside, on whom the chief burden rested; and from first to last no hitch occurred, and the meeting was an unqualified success.

The Exhibition was held in the Castle grounds, and as the day was all that could be desired it was a most charming scene. The exhibition tent was one of noble proportions, being 280 feet in length. There was a double row of stands down the centre and stages all round the sides, and yet there was not room enough for all. A little crowding in some places occurred.

#### NURSERYMEN.

In the Jubilee class (nurserymen), for which there were eight entries Mr. F. Cant of Colchester was first with Comtesse d'Oxford, Jeannie Dickson, Marie Baumann, Mrs. John Laing, Victor Hugo, Eugène Verdier, Catherine Mermet, Crown Prince, La France, Duke of Teck, François Michelin, Etienne Levet, Star of Waltham, Lady Mary Fitzwilliam, Alfred Colomb, Prince Arthur, Hon. Edith Gifford, Camille Bernardin, Madame Susanne Rodocanachi, Pride of Waltham, Duke of Edinburgh, Her Majesty, Ulrich Brunner, Merveille de Lyon, Pride of Reigate, Charles Lefebvre, Maréchal Niel, Duke of Wellington, Duchesse de Vallombrosa, A. K. Williams, E. Y. Teas, Ernest Metz, Madame Cusin, Horace Vernet, and Madame de Watteville. Mr. Baker was second, Mr. B. R. Cant third, and Messrs. Harkness & Son fourth.

In the class for seventy-two Mr. Frank Cant was again first with Her Majesty, Prince Arthur, Souvenir d'un Ami, Madame Victor Verdier, Heinrich Schultheis, Lady Mary Fitzwilliam, Lady Sheffield, Jeannie Dickson, Pierre Notting, Marie Van Houtte, Louis Van Houtte, Merveille de Lyon, Duke of Edinburgh (Tea), Alfred Colomb, Madame Ducher, François Michelin, Abel Carrière, Cheshunt Hybrid, Gustave Piganeau, Catherine Mermet, Beauty of Waltham, Marie Cointet, Susanne Rodocanachi, E. Y. Teas, Ernest Metz, Charles Darwin, Madame de Watteville, Star of Waltham, La France, Duke of Teck, Comtesse de Nadaillac, Earl of Pembroke, Madame Hoste, Victor Hugo, Pride of Waltham, A. K. Williams, The Bride, Prince Camille de Rohan, Innocente Pirola, Camille Bernardin, Marie Verdier, Countess of Rosebery, Rubens, Duke of Wellington, Viscountess Folkestone, Marie Baumann, Mrs. John Laing, Duke of Connaught, Marquise de Castellane, Dr. Sewell, Niphetos, Etienne Levet, Marie Finger, Mrs. Harry Turner, Duchesse de Morny, Fisher Holmes, Madame Cusin, Charles Lefebvre, Baroness Rothschild, Anna Ollivier, Rosieriste Jacobs, Ulrich Brunner, Jean Ducher, Pride of Reigate, Hon. Edith Gifford, François Levet, Marquise de St. Amand, Countess of Oxford, Duke of Vallombrosa, Dupuy Jamain. Messrs. Paul & Son were second, Mr. B. R. Cant was third, and British Fruit and Rose Company fourth.

In the class for thirty-six trebles Mr. B. R. Cant was first with Duke of Edinburgh, Her Majesty, Charles Lefebvre, Marguerite de St. Amand, Camille Bernardin, Baroness Rothschild, Souvenir d'un Ami, Exposition de Brie, Fisher Holmes, Alfred Dumesnil, Dupuy Jamain, Auguste Guinoiseau, Alfred Colomb, Madame Gabriel Luizet, Marie Cointet, Susanne Rodocanachi, Jeannie Dickson, Earl of Dufferin, Annie Laxton, Duke of Wellington, Madame de Watteville, Prince Arthur, Mrs. John Laing, Etienne Levet, Marie Verdier, Marie Baumann, Violette Bouyer, A. K. Williams, Gustave Piganeau, Heinrich Schultheis, Beauty of Waltham, Merveille de Lyon, Général Jacqueminot, La France, Ulrich Brunner, and Madame Clemence Joigneux. Messrs. Paul & Son were second, and the British Fruit and Rose Company third.

In the class for thirty-six singles Mr. Geo. Prince was first with Madame Clemence Joigneux, Sénateur Vaisse, Lady Mary Fitzwilliam, Etienne Levet, Her Majesty, Marie Baumann, Innocente Pirola, Pride of Waltham, Viscountess Folkestone, C. Darwin, Princess of Wales, Marie Rady, Madame Caillot, Susanne Rodocanachi, Souvenir de S. A. Prince, Sultan of Zanzibar, La France, Exposition de Brie, Marie Finger, A. K. Williams, Mrs. J. Laing, Annie Wood, Comtesse de Nadaillac, Prince Camille de Rohan, Anna Ollivier, François Michelin, Souvenir d'un Ami, Dr. Andry, Merveille de Lyon, Earl of Pembroke, Captain Christy, Victor Hugo, Maréchal Niel, Jeannie Dickson, The Bride, Baronne Adolphe de Rothschild. Curtis, Sanford & Co. of Torquay were second; Mr. S. G. Ramsey, third; and Messrs. Jefferies & Son, Cirencester, fourth.

In the class for eighteen trebles Messrs. Jefferies & Son of Cirencester were first with Comtesse d'Oxford, Her Majesty, Viscountess Folkestone, Baroness Rothschild, Duke of Edinburgh, Mrs. John Laing, Général Jacqueminot, Madame Gabriel Luizet, Ulrich Brunner, Rubens, A. K. Williams, Merveille de Lyon, Beauty of Waltham, Etienne Levet, Lady Mary Fitzwilliam, Le Havre, and Marie Van Houtte. Mr. George Prince was second; and Messrs. Curtis, Sanford & Co., third.

#### AMATEURS.

In the Jubilee class for twenty-four single varieties, distinct, open to all amateurs, the Rev. J. H. Pemberton was first with Etienne Levet, Magna Charta, Marie Finger, Comte Raimbaud, Ulrich Brunner, A. K. Williams, François Michelin, Charles Darwin, Mrs. John Laing, Marie Baumann, William Warden, Comtesse d'Oxford, Duke of Edinburgh, Charles Lefebvre, Merveille de Lyon, E. Y. Teas, Earl of Dufferin, Beauty of Waltham, Catherine Mermet, Exposition de Brie, and Madame Cusin; Mr. A. Slaughter was second; Mr. R. G. Baker was third; and Mr. E. B. Lindsell fourth. Thus Mr. Pemberton again becomes possessor of the trophy.

In the class for thirty-six singles, Mr. S. P. Budd of Bath was first with Susanne Rodocanachi, Sir Garnet Wolseley, François Michelin, Charles Lefebvre, Merveille de Lyon, Etienne Levet, La Duchesse de Morny, Ella Gordon, A. K. Williams, Ulrich Brunner, Star of Waltham, Marie Verdier, Her Majesty, Duchess of Bedford, Comtesse de Nadaillac, E. Y. Teas, Abel Carrière, Comtesse Raimbaud, Mrs. John Laing, Louis Van Houtte, Mlle. Eugénie Verdier, Alfred Colomb, Innocente Pirola, Earl of Dufferin, Madame Charles Crapelet, Charles Darwin, Catherine Mermet, Pierre Cârôt, The Bride, Duke of Wellington, Dupuy Jamain, Victor Hugo, Caroline Kuster, Eclair, Madame Gabriel Luizet, and Xavier Olibo. The Rev. J. H. Pemberton was second; and Mr. T. B. Haywood third, and Mr. E. B. Lindsell fourth. In the class for twelve varieties Mr. S. P. Budd was again first with Alfred Colomb, Her Majesty, Marie Rady, Merveille de Lyon, Madame Eugène Verdier, Etienne Levet, Victor Hugo, The Bride, Duchess of Bedford, Mrs. J. Laing, Marie Baumann, and François Michelin. The Rev. J. H. Pemberton was second; Mr. R. G. Baker third, and Mr. E. B. Lindsell fourth. In the class for twenty-four singles, Mr. E. Mawley was first with Charles Lefebvre, François Michelin, Le Havre, Etienne Levet, Her Majesty, Madame Gabriel Luizet, Ulrich Brunner, Niphetos, Dupuy Jamain, Comtesse de Nadaillac, Comtesse d'Oxford, Captain Christy, Souvenir d'Elise Vardon, Horace Vernet, Marie Finger, Sultan of Zanzibar, E. Y. Teas, Mrs. John Laing, Duke of Wellington, Catherine Mermet, Abel Carrière, Caroline Kuster, Camille Bernardin. Mr. M. Whittle, Leicester, was second; Mr. A. Slaughter third; and Mr. W. Narrowing, Oxford, fourth.

In the class for twelve singles Lieut.-Col. Standish Hore was first with Horace Vernet, Marie Finger, Prince Arthur, Camille Bernardin, Beauty of Waltham, Xavier Olibo, Mrs. John Laing, Fisher Holmes, Heinrich Schultheis, Louis Van Houtte, Le Havre, and La France. An excellent box of blooms. The Rev. F. Page Roberts was second; Mr. James Parker, Headington, was third; and Mr. W. Boyes of Derby was fourth. In six distinct single trusses Mr. C. E. Cuthell was first with Mrs. Baker, Baroness Rothschild, Mrs. John Laing, A. K. Williams, Camille Bernardin, and La France. Mr. T. A. Washbourne of Hucclecote, Gloucester, was second; Mr. C. Graham of Croydon third; and Mr. Rawlings of Cirencester fourth.

In the class for Herefordshire nurserymen, for twenty-four singles, Mr. C. Whiting of Hereford was first, and Mr. James Davis of Bodenham second. For twenty-four singles (amateurs) Mr. Walter Drew of Ledbury was first, also winning the silver medal for the best box amongst local amateurs. Mr. J. Pulley was second; Miss Baker was third. Twelve singles.—The Rev. C. H. Bulmer of Credenhill was first, Mr. F. Ecroyd was second, and the Rev. Sir George Cornwall, Bart., third. In six singles Mr. G. V. Bankes of Bath was first, Rev. C. H. Bulmer second, and Mrs. E. H. Landon third. For six Teas or Noisettes Mr. Walter Drew was the only prizetaker.

In the class for six new Roses the Rev. J. H. Pemberton was the only exhibitor. Roses were Maid of the Mist, Jeannie Dickson, Souvenir de Sarah A. Prince, T. W. Girdlestone, Lady Arthur Hill, and Cleopatra. There was a very beautiful display of garden Roses, which attracted general admiration, showing the increased popularity of these flowers. Mr. C. E. Cuthell was first, Mr. Julius Sladden of Evesham second, and Miss Mellish third.

#### TEA AND NOISETTE DIVISION.

In the open class for twelve trebles there was perhaps one of the most perfect boxes of these lovely flowers ever set up by the Rev. F. R. Burnside, of Bank Vicarage, Hereford; it contained lovely examples of Catherine Mermet, The Bride, Madame de Watteville, Rubens, Madame Cusin, Madame Bravy, Francisca Kruger, Souvenir d'Elise Vardon, Comtesse de Nadaillac, Anna Ollivier, Princess of Wales, and Innocente Pirola. Mr. Frank Cant was second, Mr. A. H. Gray third, and Mr. Geo. Prince of Oxford fourth.

#### NURSERYMEN.

In the class for eighteen, distinct, Mr. Geo. Prince was first with Comtesse de Nadaillac, Niphetos, Madame de Watteville, Innocente Pirola, Ernest Metz, Alba Rosea, Madame Berard, Rubens, Madame Cusin, The Bride, Souvenir d'un Ami, Souvenir de S. A. Prince, Catherine Mermet, Hon. Edith Gifford, Princess of Wales, Devoniansis, Adam, and Souvenir d'Elise Vardon. Mr. Frank Cant of Colchester was second, and Mr. B. R. Cant third. In twelve Teas Messrs. Jefferies and Sons of Cirencester were first with Niphetos, Madame Berard, Souvenir d'un Ami, Jean Ducher, Madame de Watteville, Marie Van Houtte, Souvenir de Paul Neyron, Catherine Mermet, Hon. Edith Gifford, Madame Cusin, The Queen, and Madame Lambard. Cranston (Limited) second, Curtis & Sanford third, and S. G. Ramsey fourth.

#### AMATEURS.

In the class for four singles the Rev. F. R. Burnside was first with a fine box of blooms, containing Catherine Mermet (this flower also obtained the medal for the best Tea in the Show), The Bride, Souvenir



d'Elise Vardon, Madame Cusin, Comtesse de Nadaillac, Hon. Edith Gifford, Madame de Watteville, Madame Bravy, Princess of Wales, Anna Ollivier, Baron de Bonstettin, and Cleopatra. Mr. A. H. Gray was second, Mr. S. P. Budd third, and Rev. H. A. Berners fourth. In six singles Lieut.-Col. Standish Hore first with Anna Ollivier, Souvenir d'Elise Vardon, The Bride, Hon. Edith Gifford, Catherine Kuster, and Jean Ducher. Mr. E. Mawley was second; and Mr. Conway Jones of Hucclecote, Gloucester, third; and the Rev. F. Page Roberts fourth.

#### OPEN CLASSES.

In the class for twelve new Roses Messrs. Paul & Son were first with Auguste Guinoiseau, Jeanne Ducher, Ernest Metz, Comtesse de Blacas, Danemaarck, Marie Margot, Souvenir de S. A. Prince, Mrs. Trevoz, Mrs. Paul, Gustave Piganeau, and Kaiser Frederick. Messrs. Curtis, Sanford and Co., second. In the class for twelve yellow Roses Mr. G. Prince was first with Comtesse de Nadaillac, the Rev. F. R. Burnside second with Caroline Kuster. In the class for twelve white Roses Mr. F. Cant was first with Merville de Lyon, Mr. B. R. Cant second with same variety. For twelve crimson Roses Mr. S. P. Budd was first with Alfred Colomb; Mr. B. R. Cant second with A. K. Williams; Cranston, Limited, third. For twelve dark crimson Roses Mr. B. R. Cant was first with Prince Arthur; Cranston, Limited, second with Abel Carrière; Paul and Son third, with Duke of Edinburgh. For twelve singles, six of any one H.P., and six of any one Tea, Messrs. Paul & Son were first, Her Majesty and Catherine Mermet; Mr. B. R. Cant was second with Madame de Watteville and Gustave Piganeau, and Cranston (Limited), third with Général Jacqueminot and Rubens.

There were several Roses set up for the National Society's gold medal, and it was awarded to Messrs. Alex. Dickson & Son of Newtownards, Co. Down, Ireland, for their beautiful new Rose Marchioness of Dufferin. They were also given a special award for a box of twelve blooms, their lovely white H.P., Margaret Dickson, which obtained the gold medal last year; and they also showed a couple of blooms of a very beautiful Rose, called Duchess of Fife, a seedling between La France and Lady Mary Fitzwilliam, a beautiful rosy pink with most delicious fragrance.

It will be seen that the National Society's silver medal was awarded for the best Tea to Mr. Burnside for Catherine Mermet, and that for the best H.P. to the Rev. J. H. Pemberton for a small but very perfect bloom of Lady Helen Stewart. The challenge Jubilee trophy for nurserymen has passed away from the Messrs. Harkness, who have held it for four years in succession, to Mr. Frank Cant, who holds it for the first time, while that for amateurs also travels back to Essex, for it has again been won by the Rev. J. H. Pemberton.

Thus ends the record for what I cannot but regard as the most successful provincial Exhibition, taking it all in all, that the Society has ever held, and had the season not been so unfavourable a one it would doubtless have been still more extensive, and I am sure of this, that none of us who had the good fortune of being there but will look back with most pleasurable feelings to the visit paid by the Society to the ancient city of Hereford.—D., Deal.

#### NORTH LONSDALE.—JULY 17TH.

THE eighth annual Exhibition under the auspices of the above flourishing Society was held on Friday last in the Drill Hall, Ulverston, and, as on former occasions, was a great success. The capital list of subscribers, and the large number of special prize donors have enabled the Committee this year to increase the prizes, in addition to which four medals of the National Rose Society and a silver medal for Pansies were offered for competition.

In the nurserymen's section for Roses £26 was offered in prize money, and this attracted entries from such champion growers as Messrs. B. R. Cant, Colchester; A. Dickson & Sons, Belfast; Harkness & Sons, Bedale; and G. and W. H. Burch, Peterborough. The total number of exhibitors, seventy, was in excess of any previous year, and the number of blooms staged was likewise much larger than usual and the quality splendid. The atmosphere of the room was fragrant with the sweet perfume of the "Queen of Flowers." In order to prevent any crowding of the exhibits, it was found necessary this year to set apart the platform at the top of the room for the display of Pansies, and which were really superb. The Judge, the champion Scotch Pansy grower, Mr. A. Irvine, Tighnabruach, Bute, spoke of them in the highest terms, and stated that the competition was considerably keener than he had experienced at any previous Show attended by him this season.

The Roses in the nurserymen's section were the great centre of attraction, and the two leading classes alone were good enough to form a capital Show, whether from a spectator's or connoisseur's point of view. Mr. B. R. Cant, Messrs. A. Dickson & Sons, and Messrs. Dicksons, Limited, Chester, made a tough fight in the class for twenty-four Roses, distinct, three trusses of each, the Colchester champion being deservedly awarded first prize for a superb collection, the representatives of the sister isle being a very close second, while their namesakes from Chester were a creditable third. In the large class for forty-eight blooms, distinct, the Irish representatives were to the front with a truly magnificent display, Mr. Cant being second, and Dicksons, Limited, third. For twenty-four distinct: First, Messrs. A. Dickson & Sons. Second, Mr. B. R. Cant. Third, Messrs. Harkness & Sons, Bedale. Twelve Teas or Noisettes: First, Mr. B. R. Cant. Second, Messrs. A. Dickson & Sons. Third, Mr. Jas. Crombie, Barrow. Twelve single trusses any dark H.P. Rose: First, Mr. B. R. Cant. Second, A. Dickson & Sons. Twelve single trusses any light H.P. Rose: First, A. Dickson & Sons. Second, Mr. B. R. Cant. Twelve new Roses, distinct: First, Messrs. A. Dickson and

Sons. Second, Mr. B. R. Cant. For the best Rose in the nurserymen's division Messrs. A. Dickson & Sons secured the premier position with a glorious bloom of Margaret Dickson, the same Rose securing for this firm the coveted position of holding the premier Rose in the Show. For this Rose there is undoubtedly a great future, and Messrs. Dickson and Sons are to be complimented on their success in raising such an acquisition.

Amateurs made an excellent show, the Herefordshire representative (Mr. Wm. Drew of Ledbury) carrying nearly all before him, being first for eighteen, twelve, six, six Teas, four H.P.'s, three trusses of each. Best light bloom with Mrs. John Laing, best Tea or Noisette, and the best buttonhole for gentlemen, to consist of one Rose only; and he also secured two medals. Local exhibitors were in good force, the competition being very close in some of the classes, Mr. H. Crousdale securing six out of eight exhibits and a medal, the other medal being awarded to Mr. R. Dilworth. In addition there was also a charming show of table and hand bouquets, ladies' sprays, &c. The nurserymen's exhibits were judged by amateurs, and amateurs' by nurserymen. The immense success of the Exhibition was in a great measure due to the untiring energy of Mr. G. H. Mackeratt, the Hon. Sec., well supported by the Hon. Treasurer and members of the Committee.

#### MANCHESTER.—JULY 18TH.

THIS was held at Old Trafford on Saturday last, and proved a great success in every respect. To say that the Show has never been excelled might perhaps be straining a point, but the exhibits were remarkably good, although when the Judges entered on their duties many of the blooms had suffered to some extent. The great interest of the Exhibition naturally centred in the large class of seventy-two blooms, Messrs. John Cranston & Co., Hereford, taking premier position with a very fine collection, the best blooms being Marie Baumann, Duke of Connaught, Abel Carrière, Thomas Mills, Violet Bouyer, Duchesse de Vallambrosa, Duke of Wellington, Charles Darwin, and Victor Hugo. The second prize was awarded to Mr. Frank Cant, Colchester, for a very meritorious collection. Third, Mr. H. Merryweather, Southwell, Notts. For thirty-six, distinct, Mr. Frank Cant turned the tables on his opponent of the previous class with a superb lot of blooms, the third position being again occupied by Mr. H. Merryweather. For eighteen and twelve Teas or Noisettes Mr. Cant was again placed first, being in each case followed by Mr. G. Prince, Oxford. Twelve single trusses, any yellow Rose, the latter exhibitor had Comtesse Nadaillac very fine. For twelve trusses, any white Rose, Messrs. Cranston had grand Duchesse de Vallambrosa, whilst Mr. S. G. Rumsey had Général Jacqueminot, superb, in the class for twelve crimsons. In the two latter classes Messrs. Paul & Son were placed second. Three bouquets of Roses—First, Mr. J. Mason, Manchester; second, Perkins & Sons, Coventry.

Amateurs came up in strong force, and their exhibits were greatly admired. In the classes for thirty-six single trusses and twelve distinct, three trusses each, the Rev. J. H. Pemberton, Romford, Essex, was the chief prizetaker, being closely followed by Mr. S. P. Budd, Bath. Mr. Pemberton's box contained fine blooms of Madame Lambard and John Stuart Mill. For twelve Teas or Noisettes, three trusses, twelve Teas or Noisettes, and twelve single trusses any yellow Rose, the Rev. F. R. Burnside practically swept the decks with grandly formed blooms, rich in colour, the most noticeable being Comtesse de Nadaillac and The Bride. Mr. S. P. Budd followed closely as second in the two former classes, the third positions being filled by Revs. A. Foster Melliar and J. H. Pemberton. Twelve singles any white Rose.—First, Mr. S. P. Budd; second, Rev. F. R. Burnside; third, Rev. J. H. Pemberton. Twelve singles any crimson.—First, Mr. C. Burgess, Plumley, Cheshire; second, Mr. S. P. Budd; third, Mr. S. Barlow, Llandudno. For Roses grown within twenty miles of Manchester, Mr. T. Tatham, Wilmslow, secured the first prize for twenty-four and twelve, Mr. C. Burgess taking second honours, and first for six. Miss Lord, Ashton-on-Mersey, was first for bouquet of Roses.

A noble bank of Disa grandiflora superba was sent from the gardens at Chatsworth House. It was a splendid exhibit, and secured a gold medal. Extra prizes were awarded to Mr. S. Barlow for thirty-two varieties of garden Roses; to Mr. Eckford, Wem, Salop, for charming variety of Sweet Peas; and to Mr. Campbell, Blantyre, for Pansies. Nurserymen made a fine display of miscellaneous plants—viz., Messrs. Clibran & Sons, Dickson, Brown & Tait, Dickson & Robinson, Paul and Son, T. Smith, Newry; and Dobbie & Co., Rothesay.

## HORTICULTURAL SHOWS.

#### TRENTHAM.—JULY 16TH.

THE famous North Stafford Hotel, Stoke-on-Trent, was the rendezvous of some notable horticulturists last week on the occasion of the Show at Trentham. No more appropriate place could be found for a horticultural exhibition than the site chosen contiguous to the beautiful pleasure grounds, to which visitors to the Show had free access through the kindness of the Duke of Sutherland. The day was beautifully fine, and the populations from the adjacent towns, a most orderly and highly respectable multitude, came in thousands to enjoy the display. It was well worthy of their patronage, and in all respects a gratifying success.

The Trentham and Hanford Horticultural Society was originally established to widen the interest in and improve the cultivation of cottage gardens. This is what it does, and will continue to do; but



with the object of providing additional attractions on the Show day a number of classes were provided open to gardeners from everywhere, and the liberal prizes offered had the usual result—splendid competition.

The special features of the Show to be briefly noticed were the groups of miscellaneous plants, Roses, and fruit, though vegetables were good, while the cottagers' tent was, as it deserved, a chief point of interest. Large specimen plants were not invited, and the event proved that an excellent, diversified, and most enjoyable Show could be provided without them. Of primary import was the competition in the open class for miscellaneous groups of plants arranged for effect, each occupying space not exceeding 300 square feet. The first prize was £15 and a work of art value 10 guineas, the second prize £14, third £10, and fourth £8. This is the way to bring out the best efforts of the best men. It should be said that Mr. P. Blair did not compete, but left the field open to others. There was a splendid response, and when Mr. Bruce Findlay and Mr. F. Sander proceeded to adjudicate none of the many experienced gardeners and judges who were present envied them of their task. They proved, however, equal to the occasion, and though their verdict at first took some by surprise, all on closer examination freely admitted the decisions were correct. The fortunate winner of the great prize, value £25, was Mr. G. J. Edmunds, gardener to the Duke of St. Albans, Bestwood Park, Notts. The group is difficult to describe, but an idea may perhaps be given of its character. It comprised a series of floral mounds, supporting elegant Palms and other appropriate fine-foliaged plants, with intervening curving mossy dells, in which dwarf flowering and foliage plants were disposed with great judgment and taste. The taller back plants were Palms in mounds of *Selaginella caesia*, *Caladium argyrites*, and other suitable plants. As front elevations two corner plants of *Cordyline indivisa variegata* were conspicuously attractive, with a centre plant of *Pandanus Veitchi*, and a base of dark *Caladiums*, small *Crotons*, and a *Begonia* of the Rex type. The intermediate tall plants comprised narrow-leaved red *Dracenas* and single-stemmed *Crotons* about 4 feet high, *C. volutus* being particularly effective. The groundwork was of living, not dead, moss, and in it were dotted in the most informal manner small *Crotons* and *Dracenas*, bright *Masdevallias*, with variegated *Ophiopogons*, *Eulalias*, and the slenderest of *Sedges*, *Carex variegata*. The group also contained a few tall plants of *Lilium Harrisii*, and a pair of *Humeas* in the background. The charm of the arrangement consisted in its freedom, yet total absence of weediness. Every plant could be seen, each appearing to lend a charm to the other. It was a masterpiece in its way, and if it had not been must have lost the position against the formidable competitor Mr. J. McIntyre, gardener to Mrs. Gurney Pease, Darlington, who was an excellent second with a charming association of bright and healthy plants, which the brown dead moss did not display to the best advantage. Mr. A. Webb, gardener to J. H. Manners Sutton, Esq., Kelham Hall, Newark, was third with a heavier yet rich arrangement; and Mr. J. Currie, gardener to Lieut.-Col. Pepper, Salisbury, fourth. It was a great and noteworthy contest, and the next of the same nature may be expected at Shrewsbury on the 18th of next month. The prizes for the local groups at Trentham, which were too smooth and packed, were awarded to Messrs. W. W. Dobson, Tittensor; R. Clark, Stone; and F. Williamson, Normacott.

**ROSES.**—Considering that the National Provincial Show was being held at Hereford the display was surprising—six lots of forty-eight and eight of thirty-six blooms being placed in competition, and it was much the same throughout the classes. Mr. H. Turner of Slough, a guest of the Duke, was one of the Judges, and it was apparent by the awards that freshness, quality, and uniformity of excellence were not overlooked. In the class for forty-eight blooms the contest was exceedingly close, and, as after a critical examination, the least number of faults could be found in the stands of Mr. H. Merryweather, he was accorded first honours, though the second and third prize stands were decidedly heavier, yet several of the blooms too advanced. Mr. Merryweather's varieties were—*Madame G. Luizet*, *Le Havre*, *Marie Baumann*, *Harrison Weir*, very fine; *Madame Montet*, *Due de Rohan*, *Captain Christy*, *Lady A. Hill*, *Lady Mary Fitzwilliam*, *Alphonse Soupert*, *Mrs. J. Laing*, very fine; *Mons. E. Y. Teas*, *Baroness Rothschild*, *Susanne Marie de Rodocanachi*, *La France*, *Ulrich Brunner*, very fine; *Xavier Olibo*, *Marguerite Boudet*, *A. Carrière*, *Souvenir de S. A. Prince*, fine; *Baron N. de Rothschild*, *The Bride*, very fine; *Dupuy Jamain*, *Dr. Andry*, *Fisher Holmes*, *Madame Hoste*, very good; *Catherine Mermet*, *E. Levet*, *Princess Beatrice*, *Earl of Dufferin*, *A. Rigotard*, *Violette Bouyer*, *Charles Lefebvre*, *Miss E. Gifford*, *Countess of Rosebery*, *Comtesse de Nadaillac*, *Marie Rady*, very fine; *Marguerite de St. Amand*, *Sir G. Wolesey*, *Madame Lacharme*, *Francisque Revé*, *Viscountess Folkestone*, *Duchess of Bedford*, *Madame Cusin*, *Général Jacqueminot*, and *Victor Verdier*. Messrs. Cooling and Son, Bath, were awarded the second prize; and Mr. F. Cant, Colchester, the third.

For thirty-six distinct, single blooms, Mr. Hy. Merryweather was distinctly ahead of all, and was awarded the first prize for a fine box of Roses, comprising *La France*, *Comte Raimband*, very fine; *Violette Bouyer*, *E. Levet*, *Merveille de Lyon*, *Gustave Piganeau*, a splendid bloom; *Mrs. J. Laing*, very fine; *Ulrich Brunner*, *Baroness Rothschild*, *Horace Vernet*, *Marguerite de St. Amand*, *Louis Van Houtte*, very fine; *Marie Finger*, *Madame Hausmann*, fine; *Madame Hoste*, very fine; *Marie Baumann*, *Madame G. Luizet*, *Camille Bernardin*, *Marie Van Houtte*, *Dupuy Jamain*, *Countess of Nadaillac*, *Due de Wellington*, fine; *Catherine Mermet*, very fine; *Mons. A. Dumesnil*, *Miss E. Gifford*, *Marie Rady*, *Lady M. Fitzwilliam*, *Dr. Andry*, *The Bride*, very fine; *Earl of Dufferin*, *Duchesse de Vallombrosa*, *Duke of Edinburgh*, *Silver Queen*,

*Sir Rowland Hill*, *Susanne M. de Rodocanachi*, and *Charles Lefebvre*. Messrs. Perkins & Son, Coventry, were second; and Messrs. Cooling and Son, Bath, were third with very good collections.

In the class for twenty-four distinct triplets Messrs. Perkins & Son, Coventry, were decidedly first with fine blooms of *Mrs. J. Laing*, *Duchess of Bedford*, *Heinrich Schultheis*, *Annie Wood*, *Capt. Christy*, *E. Y. Teas*, *Due de Wellington*, *Lady Mary Fitzwilliam*, *Pride of Waltham*, *Catherine Mermet*, *Victor Hugo*, *Miss E. Gifford*, *La France*, *Mrs. Laxton*, *Madame E. Verdier*, *Ulrich Brunner*, *François Michelin*, *Emilie Laxton*, *Etienne Levet*, *Pride of Waltham*, *Horace Vernet*, *Viscountess Folkestone*, *A. K. Williams*, and *Merveille de Lyon*. Messrs. Harkness and Sons were awarded the second; and Dicksons, Limited, the third prize.

The first prize for twelve Teas and Noisettes was well won by Mr. Frank Cant with charming examples of *Francisca Kruger*, *Innocente Pirola*, *Catherine Mermet*, *Madame Cusin*, *Souvenir de S. A. Prince*, *Hon. E. Gifford*, *Countess de Nadaillac*, *Niphetos*, *Jean Ducher*, and *Marie Van Houtte*. Messrs. Burch were second; and Cooling and Sons third in this class.

For twelve blooms of any Tea or Noisette, Messrs. Burch were first with *Innocente Pirola*; Mr. Frank Cant second, with *Madame de Watteville*; and Messrs. Cooling & Sons third, with *Devoniensis*. For twelve blooms of any dark Rose, Messrs. Perkins & Son were first with *Charles Lefebvre*; Messrs. Cooling & Sons second, with *A. K. Williams*; and Dicksons, Limited, third, with *Rosicriste Jacobs*. Messrs. Perkins & Son were first for twelve white or light Roses, with *Mrs. J. Laing*, very fresh; Messrs. Cooling & Sons second, with *Lady Mary Fitzwilliam*; and Messrs. Burch third, with *Niphetos*. In the class for twelve blooms of any colour, Mr. Frank Cant was first with *Her Majesty*; Messrs. H. Merryweather and Cooling & Sons following in that order, both staging *Mrs. John Laing*. Messrs. Perkins & Sons secured the chief prize for a basket of Roses, also for bridal and buttonhole bouquets. Exhibited with the Roses was a stand of beautiful Carnations from Mr. Turner of Slough, which were greatly admired by the visitors.

**FRUIT.**—Of this the display was both extensive and excellent, probably the best of the year up to date. The prizes of £10, £6, and £3, for a collection of nine dishes were well contested for by five exhibitors. The first prize fell to Mrs. Meynell Ingram, Temple Newsam (gardener, Mr. Dawes), who showed a fine Queen Pine, *Bellegarde Peaches*, *Negro Largo Figs*, *Madresfield Court* and *Foster's Seedling Grapes*, *Lord Napier Nectarines*, a Melon, and *White Marseilles Figs*. The second prize was awarded to Mr. J. Thorpe, Coddington Hall, Newark, in whose collection were fine *Foster's Seedling Grapes* and *James Veitch Strawberries*. The third prize went to the Duke of St. Albans (gardener, Mr. J. Edmonds), who, as usual, showed very fine *Peaches* and *Nectarines*. In the class for six dishes of fruit, Pines excluded, only two collections were staged, the first prize being won by Lord Bagot, Blythfield (Mr. T. Bannerman, gardener), who showed fine *Black Hamburg Grapes* and *Lord Napier Nectarines*. The second prize went to Lord Carnarvon, Bretby Park (Mr. Read, gardener), whose best dish was high-coloured *Buckland Sweetwater Grapes*.

The class for four bunches of Grapes, two varieties, the prizes given by Mr. Wm. Thomson, Clovenfords, was keenly contested for by seven exhibitors. The first prize went to Edward Miller Mundy, Esq., Shipley Hall (Mr. W. Elphinstone, gardener), who showed *Madresfield Court* and *Black Hamburg Grapes* in admirable condition. Second, Lord Hotham, Dalton Hall, Hull (Mr. J. Allsop, gardener), *Muscats* fine, and *Alicantes* not quite ripe. Third, Lord Carnarvon, Bretby Park, for *Black Hamburg* and *Buckland Sweetwater*. Three bunches of *Black Hamburg Grapes*: First, Mr. T. Bannerman, excellent berries and finish. Second, Mr. A. Webb, gardener, Kelham Hall. Third, J. T. Harris, Esq., Stone (gardener, Mr. J. Bates); nine exhibitors. Three bunches of any other black Grape: First, Mr. W. Elphinstone, with *Madresfield Court* superbly finished, perfect models of this fine Grape. Second, Lord Carnarvon, Bretby, with the same variety. Third, Mr. Bannerman; eight exhibitors. Three bunches of any white Grape: First, Lord Hotham, for *Buckland Sweetwater*, magnificently finished. Second, Mr. J. T. Harris, Stone, with two green *Foster's Seedling*. Third, Mr. Bannerman.

With a dish of six Peaches Mr. Gilman, gardener to Lord Shrewsbury, *Ingestrie Hall*, was first with very fine *Violette Hâtives*. Second, Mr. Dawes with *Bellegardes*. Third, Mr. Basil Herbert. Eight exhibitors. **TOMATOES.**—First, Lord Hotham. Second, Lord Shrewsbury. Third, Mrs. Meynell Ingram. **Melons, Green Flesh.**—First, Mr. Gilman with *Hero of Lockinge*. Second, Mr. Webb, Kelham Hall. Third, Mr. J. Edmunds, Bestwood Park. **Scarlet Flesh Melon.**—First, Mr. J. Edmunds with *Read's*. **Dish of Cherries.**—First, Mr. Gilman with very fine *Black Tartarian*. Second, Mr. Dawes. **Strawberries.**—First, Lord Aylesford, Packington (Mr. A. Elphinstone, gardener), with remarkably high coloured *Sir Joseph Paxton*. Second, Mr. J. Thorpe. Third, Mr. Gilman.

Of the vegetables we can only say that both produce and competition was good, that the prizes offered by the Society for nine dishes were won by Mr. Thorpe, Lord Carnarvon's gardener, and Mr. Gilman; that Messrs. Sutton's prizes were adjudged to Lord Carnarvon and Messrs. Harris and Fitzherbert; and that Messrs. Webb's prizes were won by Messrs. Harris and Meakin. Many other exhibits must be passed, but a strong word of approval must be recorded for the cottagers' produce both in respect to vegetables and flowers.

The Show was opened by the Duke of Sutherland, who, with the Duchess and guests, closely examined the exhibits. A largely attended luncheon was held on the ground, at which speeches were delivered



that met with good acceptance by the company. Mr. Taylor, the indefatigable Secretary, Mr. Blair, and all the officials, are to be congratulated on the success achieved, upwards of £400 being taken for admission during the afternoon.

The Trentham gardens are in admirable condition—Orchids, Grapes, Peaches, Chrysanthemums, &c., showing that they are in charge of a master in the art of cultivation, and it is impossible to speak too highly of the efforts of Mrs. Blair in making her numerous guests happy and at home on the interesting occasion.

#### HIGHGATE.—JULY 16TH.

FAVOURER with splendid weather, and the grounds of the Baroness Burdett Coutts for the venue, the thirty-second annual Exhibition of this vigorous Society proved to be one of the most successful ever held, the exhibits, both in quantity and quality, being considerably above the average.

The whole of one side of the largest tent, 140 feet by 50 feet, was occupied with the flowering and foliage groups, which formed a fine exhibition in themselves. The first prize for a collection of flowering plants was well won by Mr. J. Brooks, gardener to W. Reynolds, Esq., J.P., followed closely by Messrs. H. Eason and J. Britain.

For a collection of flowering and foliage plants Mr. H. Eason, gardener to B. Noakes, Esq., North Hill, was first, with Mr. J. Britain second. First prize for six stove plants (foliage) was won by Mr. J. Britain with exceptionally fine specimens. He was followed by Mr. H. Eason.

For six stove plants (flowering) Mr. H. Eason took first place with half a dozen of the greatest merit, conspicuous among which were an Allamanda splendidly flowered and a very fine Eucharis.

Cut Roses were staged largely and in very fine form. The Hon. Secretary has been working hard to increase the interest in the Queen of Flowers, getting special prizes offered, &c., and his efforts were rewarded by excellent competition. Mr. J. Bateman, Rosevale, Archway Road, was *facile princeps*, taking first prizes in all the open classes—namely, twelve varieties, three of each, and two classes of twelve, distinct. He was closely followed in the latter two classes by his pupil, Mr. Hugh White, and in the former by Mr. G. Page.

In the class for dinner-table decorations a great improvement in style was noticeable, the heavy crowded exhibits having given place to those of the light and graceful character, so much more agreeable to the eye. The Hon. Sec., Mr. D. B. Crane, was placed first with three epergne vases, containing Iceland Poppies, Grasses and Ferns. The exhibits of buttonhole bouquets were of a very fine stamp, the prizes being taken by Messrs. H. G. Russell, H. Eason, and E. Elcock in the order named.

The Baroness Burdett Coutts takes the greatest possible interest in the cottagers' division of this Society, valuable prizes being offered by her and other subscribers for collections of fruit, vegetables, cut flowers, &c., &c., and the result is keen competition every season, and a degree of excellence which would do credit to much larger shows. The principal prizewinners in this section were Messrs. R. Sower, C. Halsey, H. Bass, G. Collins, A. Sedgwick, and H. White.

The Show was visited and critically inspected during the afternoon by the Baroness Burdett Coutts and some friends, who all expressed the greatest pleasure with the exhibits. A handsome bouquet was afterwards presented to the Baroness on behalf of the Society. The fine weather continued throughout the day, and the attendance was very good, about £150 being taken at the gates.

#### PRESCOT AND DISTRICT.

THE seventh annual Exhibition of the Prescott and District Horticultural Society was held on Thursday last in a field at Parkside, kindly lent by James Whittaker, Esq. Although the weather did not look very promising early in the morning the threatening clouds dispersed, and the sun shone out in great brilliancy the whole of the day. The attendance was great—in fact, after the time for the cheaper rate of admission the ground became crowded, and the field presented a very gay appearance. Considering the lateness of the season the exhibits were very little behind other years, but the groups were well ahead of all previous efforts, as were the stove and greenhouse plants; whilst vegetables, especially Celery, were very good. The Society has made rapid progress during the last two or three years, and £120 was this year offered in prizes as against £90 last year. For six stove and greenhouse plants, three in flower, Mr. R. Pinnington, gardener to Edward Banner, Esq., Blacklow House, Roby, was first, in his collection being a good *Statice profusa* *Hydrangea hortensis* with forty heads of bloom perfectly blue, and *Plumbago capensis*, whilst foliage plants were represented by a good *Phoenix*, *Alocasia macrorrhiza* variegata, and *Croton Carrieri*. Mr. Edward Blythian, gardener to Mrs. Baxter, Rainhill, was second, in this collection being a capital *Statice Holfordi* and a fine *Plumbago capensis*. Four greenhouse plants in flower.—First, Mr. E. Blythian. Third, Mr. H. McFall, gardener to E. C. Leventon, Esq., Oakfield, Roby. One greenhouse plant in flower.—First, Mr. E. Blythian. Second, Mr. Ratray, gardener to G. G. Musson, Esq., Roby. For six stove and greenhouse Ferns, Mr. R. Pinnington took first honours, his best plants being *Davallia Mooreana*, *Dicksonia antactica*, and *Goniophlebium subauriculatum*. Second, Mr. E. Blythian, who had good plants of *Adiantum excisum* and *Adiantum decorum*.

Gloxinias, Begonias, Pelargoniums, Cockscombs, Fuchsias, and Petunias were well represented, Messrs. Learmont, Gray, McFall, Blythian, Pennington, Price, and Eaton being the chief prizetakers.

The collection of plants arranged for effect brought out seven competitors. The first and second places were warmly contested, the chief honour ultimately falling to Mr. J. Bounds, gardener to A. L. Jones, Esq., Aigburth, for an arrangement lightly put together. A well-coloured *Croton* formed the centre, Maidenhair Fern was judiciously used, whilst peeping out were just enough Orchids to give the right balance. Mr. McFall was a very close second, only losing by not having such choice Orchids as the winning group. Mr. Gray was a good third, and Mr. T. Eaton was considered worthy of an extra prize.

Roses were fairly well shown. For eighteen Mr. Wharton, gardener to Dr. Royston, The Orchard, Huyton, was a good first; second, Mr. W. Rigby. For twelve and six Mr. J. Beesley, Prescott, took both honours. Six Roses in pots Mr. J. Bounds, the same exhibitor winning with cut flowers grown outdoors.

Fruit was well shown. Collections of four dishes.—First, Mr. R. Pennington, who had fair Black Hamburg Grapes, fine Hero of Lockinge Melon, capital Dagmar Peaches, and Lord Napier Nectarines. Second, Mr. J. Bounds. Third, Mr. T. Eaton. Mr. Pennington was also successful for green and scarlet flesh Melons, dish of Strawberries, three dishes Tomatoes, and second for Peaches. Mr. Middleton, gardener to Lieut.-Col. Pilkington, Rainford Hall, carried all before him with Grapes, winning with glorious Black Hamburg, Muscat of Alexandria, and superb Madresfield Court. In the Black Hamburgs Mr. T. Eaton exhibited well grown bunches a little short of colour.

Mr. McFall was first with Bouquet, and third with a collection of vegetables. Mr. Learmont came in first with Turnips, Broad Beans, and Cauliflowers. The class for Nectarines was won by Mr. J. Mather, gardener to W. H. Evans, Esq., Huyton. Cottagers exhibited in fine form, and the Show was a thorough success, thanks to the hardworking Secretary and Treasurer and the able Committee.

#### BEDFORD AND BEDFORDSHIRE.

At the annual Exhibition of this Society held on Thursday last Roses and cut herbaceous flowers were a well sustained feature. In the open class of forty-eight distinct Roses, Messrs. Burch of Peterborough led with some fine and well-coloured, although not large blooms, having Victor Hugo, Le Havre, Star of Waltham, Duchess of Bedford, Etienne Levet, and perhaps the best bloom of Elie Morel which has appeared in a winning stand for some years. Messrs. D. Prior & Son, Colchester, were second, and Messrs. Burrell & Co., Cambridge, third. For eighteen Teas (open), Messrs. Burrell & Co. in the first prize box had charming flowers of Ernest Metz, Souvenir d'Elise, Comtesse de Nadaillac, Souvenir d'un Ami, David Pradel, and a remarkable fine flower of Madame Margottin. Mr. J. Mattock, New Headington, Oxon, came second, and Messrs. Burch third. In the open amateurs' class for twenty-four distinct Roses, the champion, Mr. E. B. Lindsell, was in his full strength, showing a well matched box of finely coloured blooms Mrs. Jno. Laing, Rosieriste Jacobs, Comtesse de Nadaillac, J. S. Mill, Victor Hugo, Baroness Rothschild, Grand Mogul, and Captain Christy being prominent. The Rev. E. Foster-Melliar, Sproughton Rectory, Ipswich, was second, and the Rev. W. H. Jackson, Stagsden Vicarage, Bedford, third. For twelve Teas, open to amateurs, Mr. Jackson led, Mr. Foster-Melliar following, and Mr. Lindsell as third, all having very fine and clean flowers. For six cut Roses (amateurs' open class), Mr. G. Moules and Mr. W. O. Times, Hitchin, were first and second, and Miss Bailey-Denton, Stevenage, third. The hottest day of the season told greatly against the Roses, which had mostly been grown in cooler and shady weather, and after judging, some winning stands of blooms, which before noon were bright and bold, could hardly then compare with stands placed below them, but which had evidently been "boxed" only the same morning.

A brighter show of cut hardy herbaceous and bulbous flowers has rarely been seen. For thirty-six bunches (open) Messrs. Burrell & Co. and Messrs. Laxton Brothers, Bedford, had large and very glowing masses of the most attractive sorts, both were admirably staged; perhaps the credit is due to Messrs. Laxton for the most striking exhibit, but Messrs. Burrell had a few more choice varieties, but ultimately the Judges gave the palm to Messrs. Burrell. In Messrs. Laxton's collection *Scabiosa caucasica* var. *amena*, deep tinted and large flower, was very conspicuous. *Lychnis Haageana*, not often so well done, and *Dianthus Napoleon III.*, a brilliant mass. Mr. J. C. Sheppard, Bedford, was third with a very good and choice collection. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited, not for competition, a large and attractive collection of upwards of seventy varieties, including *Heuchera sanguinea*, *Lilium pardalinum californicum*, *Colchicum dalmaticum* testaceum and *Martagon album*, all very attractive; *Triteleia Murrayana*, *Helianthus occidentalis* and *Campanula persicifolia alba grandiflora*. Messrs. Laxton also staged a grand lot of the newest varieties of Sweet Peas not for competition. Both these collections were highly commended.

The plant department at this Show, not usually a strong one, on this occasion gave evidence of increasing spirit on the part of local exhibitors. Mr. Ellis, gardener to Mrs. Orr, Pemberley, Bedford, taking first for a group; Mr. Empson, gardener to C. Franklin, Esq., Bedford, leading for foliage plants; Mr. Robinson, gardener to F. Howard, Esq., Bedford, leading for tender and hardy Ferns and Fuchsias; Mr. Hermon, gardener to Griffith Jones, Esq., Goldington, for some well grown Zonal Pelargoniums; and Mr. R. Day, gardener to J. Hawkins, Esq., Mayor of Bedford, for Gloxinias; and Mr. Stewart, gardener to R. Greenfield, Esq., Haynes Park, Beds, for table plants.

Fruit was a weak department, and except for the really choice



examples from the Mayor's garden, and from which came worthy exhibits, enabling Mr. Day deservedly to come first for a collection of six varieties for very fine Black Hamburgh Grapes and Peaches, comment would not be necessary. Mr. Allis, gardener to Major Shuttleworth, Old Warden Park, was first for a splendid dish of Waterloo Strawberry; the flavour, however, was disappointing. Mr. T. Bradshaw, Houghton Regis, taking first for a collection of Strawberries, including Noble, Sir J. Paxton, and Forman's Excelsior.

Vegetables were, for the season, well shown. In the competition for Messrs. Sutton's prize Mr. Robinson was successful. Potatoes were all round poor, but Peas were remarkably well shown, Mr. Waller, Clapham Park Gardens, securing first for prizes offered by Messrs. Laxton with very fine examples of Evolution, Autocrat, Duke of Albany, and Ne Plus Ultra. Messrs. M. Coleman, Bedford, was first for a bouquet with a very light and effective arrangement of *Erigeron speciosus*, Ox-eye Daisies, and Grasses; Miss Maude Blake for sprays, and Miss M. T. Godfrey for table decorations.

The competition for wild flowers and Grasses, chiefly amongst children attending the Bedford schools, was spirited and highly interesting, evidencing an increasing taste in this department amongst the rising generation so largely represented in Bedford.

#### WOLVERHAMPTON.

WITH fine weather, an excellent Show, and a large number of well filled tents the third annual Exhibition at Wolverhampton was an unquestionable success. The People's Park is a grand place in which to hold an exhibition on a large scale, as it occupies fully 80 acres, admirably laid out and planted, with plenty of broad grassy spaces for tents and promenading. There are large sheets of ornamental water, some charming carpet bedding, and a very large number of beds of other plants, with miles of borderings of *Violas*, and *Campanula pumila alba*; and the admirable order kept by the able Superintendent, Mr. Thomas, lifts the Park to the level of the pleasure grounds of our most noted private gardens. The price of admission on the first day was 2s. 6d. until five o'clock, afterward 1s, and from 15,000 to 20,000 persons must have been present. The excellent military band from London was a great attraction. At night thousands of variegated lamps and Chinese lanterns were used in illuminating the grounds, and the effect was most charming. The lakes were studded with boats rigged with masts, and cordage hung with lamps and lanterns, and kept constantly moving, with a band in one of them, the margin of the lakes being distinctly marked out with lamps and lanterns. Too much praise cannot be given to the executive for this magnificent attraction, which entailed considerable expense and labour, but was eminently gratifying to the visitors.

One long tent was devoted to groups of a circular form not exceeding an area of 450 square feet, and seven were staged. Mr. Cypher, Cheltenham, obtained the first prize with a delightful group, having a central Palm and *Oncidium flexuosum* and *O. maeranthum* lightly arranged with it. There were Orchids in profusion, and well coloured Crotons and other plants arranged in a groundwork of Ferns. Second, Mr. Currey, gardener to Colonel Pepper, Salisbury. Third, Mr. W. H. Dyer, gardener to Mrs. Marigold, Edgbaston, Birmingham.

A tent over 200 feet in length was devoted to the stove and greenhouse and ornamental plants. In the class for sixteen flowering or fine-foliage plants, Mr. Cypher was first with grand Palms, *Ixoras Williamsi* and *salicifolia*, Crotons Sunset and *angustifolius*, *Stephanotis floribunda*, Croton Queen Victoria, *Erica obbata*, and other plants. Mr. Finch, gardener to Mr. Alderman Marriott, Coventry, was second with fine plants, amongst which was a grand Croton Mortei. Third, Mr. W. H. Dyer. In the class for six stove and greenhouse plants in flower Mr. Cypher was first with superb plants of *Erica Parmenteriana rosea*, *Bougainvillea glabra*, *Allamanda nobilis*, *Stephanotis floribunda*, *Ixora salicifolia*, and *I. Regina*. Mr. Finch was an excellent second, and had one of the finest examples of *Allamanda grandiflora* we have ever seen. Third, Mr. Currey. Mr. Cypher was first respectively for six Tree Ferns and six Palms; and Mr. Sharp, gardener to — Lovatt, Esq., Wolverhampton, was first for six exotic Ferns. Second, Mr. Finch; third, Mr. Cypher.

For eight Orchids Mr. Cypher was first with large specimens, consisting of *Anguloa Clowesi*, *Cattleya gigas*, *Lælia purpurata Brysiana*, *Cypripedium Lawrenceanum*, *C. barbatum*, a fine *Cattleya gigas Sanderiana*, *Lælia purpurata*, and a large specimen *Thunia Marshalli delicata*. Second Mr. Alderman Marriott; third, Mr. C. Raffill, gardener to Henry Smith, Esq., Kingswinford.

Some fine exhibits of six ornamental foliage plants were staged. First, Mr. Cypher, with good examples of Croton Sunset and *angustifolius*, and *Cordyline indivisa*. Second, Mr. Alderman Marriott, who had a *Dion edule* in excellent condition. Third, Colonel Pepper.

In the open class for Roses, seventy-two blooms, there were six exhibitors. Mr. Frank Cant, Colchester, was first, and he had fine blooms of Comtesse de Nadaillac, Lady Helen Stewart, Mary Bennett, Susanne Marie Rodocanachi, Her Majesty, The Bride, Ulrich Brunner, Etienne Levet, and Pride of Waltham. Second, Mr. B. R. Cant, Colchester, his most noticeable blooms being Alphonse Soupert, Duke of Edinburgh, Etienne Levet, Madame Gabriel Luizet, Her Majesty, Ulrich Brunner, and Captain Christy. Third, Messrs. Paul & Son, Cheshunt.

With forty-eight Roses there were six exhibitors. Mr. B. R. Cant was first, and in his stand were fine blooms of Viscountess Folkestone, Souvenir d'Elise, Pride of Waltham, Duke of Edinburgh, Ulrich Brunner,

Madame Eugène Verdier, Innocente Pirola, and Baroness Rothschild. Second, Mr. F. Cant, with Etienne Levet, Lady Helen Stewart, Susanne Marie Rodocanachi, Mrs. John Laing, Merveille de Lyon, Her Majesty, and La France (very fine). Third, Messrs. Dicksons, Limited, Chester. Fourth, Messrs. Burch, Peterborough. Messrs. Burch won with thirty-six, and in their stand were fine blooms of Ulrich Brunner, Madame Gabriel Luizet, Madame C. Wood, Marie Verdier, Earl of Dufferin, Captain Christy, Merveille de Lyon, Anna Ollivier, John Stuart Mill, François Michelin, Xavier Olibo, Mrs. John Laing, Duchesse de Morny, Abel Carrière, and Lord Wolseley. Second, Mr. B. R. Cant, with fine blooms of Marguerite de St. Amand, Madame Gabriel Luizet, Susanne Marie Rodocanachi, a grand example of Her Majesty, Viscountess Folkestone, and Marie Verdier. Third, Messrs. Perkins & Sons. Fourth, the Cranston Nursery Company. With twenty-four Roses, Mr. F. Cant was first, Mr. B. R. Cant second, Messrs. Perkins & Sons third.

Twelve blooms of one variety, dark.—First, Mr. B. R. Cant, with Duke of Edinburgh. Second, Messrs. Prior & Son, with A. K. Williams. Third, Mr. F. Cant, with Victor Hugo. Twelve blooms, one variety, light.—First, Messrs. Perkins & Sons, with Mrs. John Laing. Second, Mr. B. R. Cant, with Merveille de Lyon. Third, Rev. F. Burnside, with Marie Van Houtte. Twelve Tea Roses, distinct.—First, Rev. F. Burnside. Second, Mr. F. Cant. Third, Messrs. Prior & Son. The following classes were for amateurs and gentlemen's gardeners only:—Thirty-six distinct Roses.—First, the Rev. A. Foster-Melliar, with a first-rate lot: Germain Caillet, Alphonse Soupert, Marie Finger, Madame Gabriel Luizet, Jeannie Dickson, Ulrich Brunner, Marie Verdier, Duke of Wellington, Madame Eugène Verdier, Mrs. John Laing, Merveille de Lyon, and Comtesse de Nadaillac (especially fine). Second, Mr. W. Bolton, Wolverhampton. Third, the Rev. H. Pemberton. Twenty-four distinct varieties.—First, the Rev. H. Pemberton. Second, the Rev. A. Foster-Melliar. The display of Roses throughout was extensive, and a marked feature of the Exhibition.

Fruit was tolerably well represented, and in some cases of good quality. For four bunches of Grapes, distinct, Mr. C. Frowd, gardener to the Rev. Canon Coventry, Worcester, was first with well-finished fine Black Hamburgh and Gros Colman, and Buckland Sweetwater, and Muscat of Alexandria. Second, Mr. J. Wilkes, gardener to G. Meakin, Esq., Cresswell Hall, Stafford, a well-finished bunch of Madresfield Court being in this stand. Third, Mr. Blair, Trentham, with a well finished bunch of Alnwick Seedling amongst his clusters. Two bunches of white Grapes.—First, the Rev. Canon Coventry, with Muscat of Alexandria. Two bunches of black Grapes.—First, the Rev. Canon Coventry with excellent Black Hamburgs. Second, Mrs. Marigold, with Black Hamburgh. Third, R. Lovatt, Esq., with small bunches of Madresfield Court. Peaches.—First, Mr. Gilman, Ingestrie, for large handsome Violette Hâtives. Second, Mr. Blair, with the same variety. For six Nectarines Mr. Blair was first with highly coloured Lord Napier, and Mr. Gilman second. With a collection of fruits, ten varieties, Mr. Blair was first, his Black Tartarian and Bigarreau Napoleon Cherries being especially fine, Lord Napier Nectarine and Waterloo Strawberries excellent. One exhibitor included Tomatoes in his collection, and was disqualified.

There were restricted classes for gentlemen's gardeners in Staffordshire, Worcestershire, Warwickshire, and Salop. For six stove and greenhouse plants Mr. Finch was first with *Lælia purpurata*, *Dasyliroon acrotrichum*, Croton Queen Victoria, *Allamanda magnifica*, and two other plants. Second Mrs. Marigold. Some excellent pyramidal Coleuses were staged, and Mr. J. E. Underhill's first prize eighteen Gloxinias were beautifully grown. For six Exotic Ferns Mr. Powell, gardener to G. H. Kenrick, Esq., Birmingham, was first, a very fine *Cibotium spectabile* being in this exhibit. For groups, limited to 400 square feet, Mr. S. Horton, gardener to — Fowler, Esq., was first; Mr. W. H. Dyer second; and Mr. Powell, gardener to G. H. Kendrick, Esq., third; these being beautiful exhibits. The amateurs' and cottagers' classes were abundantly filled. Messrs. Perkins & Sons, Coventry, were first in each of the three classes for their well-known style of bouquets. For Messrs. Carter & Co.'s vegetable prizes for collection there were two exhibits. First, Mr. Thomas Wilkins, gardener to Lady Theodore Guest, with a very fine lot; second, Mr. Waite, gardener to the Hon. W. E. Talbot. For Messrs. Webb & Sons' prizes for collection—first, Mr. Wilkins; second, Mr. Waite. Four exhibitors.

For Messrs. Suttons' prizes for collection—first, Mr. Waite, with a very fine lot; and there were three other competitors. All were meritorious, Mr. Wilkins and Mr. Waite having especially fine collections. Mr. W. Farr, The Gardens, Patshull, sent three handsome large Queen Pines, and very fine Mushrooms and Tomatoes.

Mr. F. Smith, nurseryman, Newry, contributed a large display of choice herbaceous cut blooms; Messrs. Hewitt & Co., Solihull, cut herbaceous blooms; Mr. Davis, Yeovil, a fine display of cut double and single Begonias; Messrs. Clibran & Son, Altrincham, choice Ferns and cut herbaceous flowers; Messrs. Webb & Sons, a collection of vegetables; and Messrs. B. S. Williams & Son, Holloway Nurseries, London, a quantity of new and rare plants, the following receiving certificates:—*Cypripedium Morganæ*, *Draeena indivisa variegata*, *Begonia Arthur Malet*, *Dicksonia Lathamii*, *Pteris tremula Smithiana*, and *Draeena versallensis*. Messrs. Birkenhead, Sale Nurseries, Manchester, set up a very extensive collection of new and rare Ferns, and certificates were awarded to the following:—*Athyrium cristatum*, *F.-f. kalothrix*, *Pteris Victoria*, *Davallia Griffithiana*, *Athyrium Friselliae coronaria*, and the beautiful and distinctly spotted *Gymnogramma Mulleri*.

On the second and third days there was an enormous attendance, as



the Wolverhampton Show has now become so popular, and Mr. Green, sen., who has so much to do with the supervision, and his son, the courteous Secretary, with the Committee are to be congratulated on their success.



#### FRUIT FORCING.

**FIGS.—Trees in Pots for Early Forcing.**—These must be kept free from red spider by syringing at least once a day, in hot weather twice, directing the force of the water against the under side of the leaves, and if this is not sufficient an insecticide must be employed, as it is important that the foliage be kept clean and perform its functions to the last. Afford liquid manure to the roots, not to the extent of causing exuberance, but to insure a due supply of nutriment, and the storing of assimilated matter in the wood. Pinching to induce a neat habit in young plants with fruitfulness must be attended to, regulating the stopping by the vigour of the plants and varieties. Strong-growing sorts will need to be more closely pinched than those of moderate growth; but in all cases avoid crowding the shoots, for fruitfulness is not so much dependant on ample foliage as on a legitimate proportion duly exposed to light. The trees must not be huddled together, but each must have space essential to the proper development of the tree under all the light possible, and free ventilation to solidify the growth as it is made.

**Second Crops.**—Planted-out trees started about the new year will have the second crop in an advanced state, and it must have a final thinning, if not already effected, reserving those fruits near the base of the growths, which finish better than those near the points. Thinning is of vital importance, because fruit-bearing is an exhausting process, and the first crop next year having to be borne on the well-ripened points of the growths of the preceding year that part must not be enfeebled by carrying a heavy load of fruit. First crops are the most valuable. Any cultivator can grow second crops, and the chief cause of the failure of the first is imperfect ripening of the wood. Nor must the energies of the trees be taxed too severely by the second crop if they are intended to afford early fruit next season. Attend regularly to training and stopping the shoots, keeping the points well exposed to light. Train thinly, tie loosely, and leave plenty of space in the ligatures for the shoots to swell. Stop side shoots at the fifth leaf, and rub off those not required, for spur growths to the extent of crowding is fatal to fruitfulness. Afford water copiously through a light mulching of short lumpy manure, none surpassing horse droppings duly sweetened. If used fresh and too abundantly there is danger of injury to the young growths. The dressing is light, admits air, and contains ammoniacal elements, which greatly benefit the trees. Liquid manure will be necessary according to the vigour of the trees and the extent of the rooting area. Trees in narrow borders may need it every day, others at longer intervals. They can hardly have too much water in hot weather, and they store more matter in a week of fine weather than in a month of dull. The border, however, must be of sound material, and the roots active. Forebly dislodge red spider by syringing twice a day, which, with proper feeding, will occasion little need of insecticides; but scale must be removed with a brush and a soapy solution. Admit a little air constantly, increase it early; close early with plenty of atmospheric moisture, allowing the heat to rise to 90°, and the fruit will swell to a good size. Then a circulation of air constantly will enable the grower to produce Figs of the highest quality, which are wholesome, nutritious, and much appreciated at dessert.

**PEACHES AND NECTARINES.—Early Forced Trees.**—Trees of Alexander, Hale's Early, Early Alfred, A Bee, Stirling Castle, Crimson Ga'ande, and Royal George varieties, started from early December to the new year, have been cleared of fruit, and the wood on which it was borne removed. This and the taking out of any superfluous growths admits light and air, so that the wood retained becomes hard and brown, and the buds attain perfect formation, but this is contingent upon clean foliage and proper supplies of nutriment. The trees, therefore, must be syringed, and, if necessary, have an approved insecticide promptly applied, supplying water, and in the case of weakly trees liquid manure to the roots so as to keep the soil healthfully moist. Mulching with light rather lumpy manure a couple of inches thick will keep the surface moist, the roots active, prevent the soil cracking, and assist in the retention of the foliage in health. The buds will be sufficiently advanced and the wood matured to allow the roof lights to be removed, and this should not be further delayed. This secures a sort of rest, has a most beneficial effect on the trees, while the soil becomes well moistened by the autumn rains.

**Succession Houses.**—The crops are ripening on trees that were started in February; indeed very early varieties have been cleared of their crops. Crimson Galande is remarkably brilliant in colour, Stirling Castle large and good in colour, Grosse Mignonne still larger and more highly coloured, whilst Royal George leaves nothing to be desired as regards size, form, colour, and quality. All points considered, it is, perhaps, the best of Peaches grown under glass. Lord Napier Nectarine attains a good size, bears freely, has a most refreshing

piquant flavour, and when ripe to the extent of shrivelling is remarkably rich without cloying. Its colour, however, is its weak point, but in Dryden is found size, high colour, and fine flavour. It is probably the best Nectarine for all round purposes. Pine Apple is richer, a pleasing orange and crimson, and as a midseason variety excellent. Victoria is of good size and quality, and if well exposed to the light has a fine crimson cheek. Those are the cream of Nectarines, and all raised by Mr. Rivers. As the fruit is cleared off the trees cut out the wood that has borne it, thinning the growths where they are so close that the foliage cannot have exposure to light and air. Cleanse the growths by means of the syringe or engine with water of dust and red spider or other insects, using an insecticide if necessary. Keep the borders moist, not soddened, using liquid manure if the trees are weak, have borne heavily, and the buds are not developing well, but keep it from those inclined to over-luxuriance. Stop all laterals to one joint, but where the buds are in an advanced condition allow a little lateral extension, which prevents premature ripening of the foliage by continuing the root action with at the same time growth on which to expend it without danger of starting the principal buds. When the buds are well formed, the fruit having been cleared off the trees, remove the roof lights. If under fixed roofs ventilate to the fullest possible extent.

**Trees Swelling their Crops.**—Those started in March have passed the stoning process satisfactorily, as usually happens when the trees are not too luxuriant, not hurried in the early stages, and have not been overcropped or neglected in thinning the fruit, with a genial condition of the atmosphere so as to ensure steady progressive growth. Border constituents, however, exert an influence on the stoning. Light, loose, rich soil rarely grows Peaches and Nectarines satisfactorily. Rather strong loam with some clay or elay marl, so as to afford and store potash, old mortar rubbish or chalk to supply calcareous matter, seem to suit these fruits best. Draw the leaves aside and raise the fruit by means of laths with its apex to the light. Water the inside border and outside if inclined to dryness, affording liquid manure and a mulch of lumpy manure. Avoid a close surface, for it excludes air, and that it be open is as essential for the assimilation of plant food for taking up by the root hairs as its elaboration by healthy foliage. Ventilate early, in fact leave a little air on all night, syringe by 7 P.M., and through the early part of the day ventilate freely. When the sun loses power in the afternoon reduce the ventilation and raise the temperature to 85° or 90° about 4 P.M., with a good syringing and damping of surfaces, but it must be done with judgment, for when water hangs for any length of time on the fruit during the last swelling it is liable to damage the skin, causing it to crack, and imparting a musty flavour; therefore have the fruit dry before night, and when the day is dull omit the morning syringing. Directly the fruit commences ripening cease syringing, but afford air moisture by damping available surfaces, especially the border whenever it becomes dry, ventilating rather freely, and admit a little air throughout the night.

**Late Houses.**—If it is desired to accelerate the ripening ventilate rather freely in the early part of the day and up to one o'clock, then keep the heat obtained by reducing the temperature so as to secure 80° to 85°, and about 4 P.M. close, syringing well, and no harm will come if the temperature rises to 90° or 95°, ventilating a little about six o'clock so as to let the pent up moisture escape and the temperature gradually cool down. Regulate and tie down the shoots as they advance, allowing no more than are necessary for next year's fruiting, or for furnishing the trees. Let all have space for development, keeping laterals stopped to one leaf, and retain growth to attract the sap to the fruit. Any gross shoots pushing laterals from the leaf buds may be cut back to where the buds remain intact, or, if likely to disarrange the equilibrium of the trees, cut them out altogether. They only tend to promote gumming, imperfect setting, and certain easting of the fruit in stoning. Draw the leaves away from the fruits, which raise from the under side of the trellis and expose them to the sun. If the fruit is required retarded ventilate freely day and night, but do not, as a rule, have recourse to shading, though a slight shade obtained by drawing herring netting over the roof lights is beneficial than otherwise where the panes of glass are large. Observe the conditions laid down in the preceding paragraph after the fruit commences ripening, also as to assisting the swelling.

**Wall Cases.**—Secure the growths to the trellis as they advance, being careful to allow space in the ties for the swelling of the shoots; neglect of this is a frequent precursor of gum. Keep the growths so thin that every leaf has full space for development and exposure. Syringe about 7 A.M., the house having a little ventilation constantly, increasing this with the advancing temperature to 75°, or if it is desired to accelerate the ripening maintain a temperature of 80° to 85° at day, but always with ventilation, and close sufficiently early to maintain that temperature but not to raise it above 90°. Syringe again about 5 P.M. Red spider will not make much headway provided the syringing is thorough and the trees are well supplied with water at the roots. Afford liquid manure to weak and heavily cropped trees. Thin finally directly the fruit is stoned. Neglect of early thinning results in thin-fleshed, flavourless fruits.

#### THE KITCHEN GARDEN.

**SOWING CABBAGE SEED.**—A good breadth of spring Cabbage is of the first importance, a fact brought home to many gardeners in a very forcible manner this year—a general scarcity prevailing. The first step towards succeeding with this crop is to raise abundance of sturdy plants, being too sparing with either the seed or ground being the reverse of



economical. There are several very excellent varieties available, nearly every seedsman of repute having one or more that can be depended upon to do well; and without recommending unlimited collections, it is yet advisable to sow at least three varieties. In some seasons all may do well, but more often than not what suits one variety does not agree with another, too early hearting, premature seeding, or death by frost resulting. By sowing two or three varieties all the eggs are not in one basket. It is also advisable, for somewhat similar reasons, to make more than one sowing. What may be the correct date one season may be either too early or too late in the next, and an equal number of plants put out from two sowings should meet all contingencies, and in any case provide a good succession. In late localities the first sowing may well be made during the third week in July, more seed being sown a fortnight later. A week later all round answers well in warmer districts, these differences not necessarily being confined to either the north or the south, and in most cases there is a particular and long recognised date for sowing. Thin sowing, so as to do away with the necessity for pricking out the plants, answers best, the transplanting being more simply and surely carried out. Therefore select a good open border, fine this down thoroughly, water through a coarse rose if at all dry, and then sow the seeds broadcast, well covering with sifted soil from the frame ground. If sowing in drills is preferred, water these prior to distributing the seed thinly among them. Net over if birds are troublesome, and keep off flea and slugs by means of slaked lime and soot dusted over the tiny seedlings when the dew is on them.

**CELERY.**—If properly prepared, the plants being pricked out in a thin bed of manure and soil on a hard bottom, they can be transplanted to the trenches in the hottest weather without experiencing a severe check. They ought to be put out too before they crowd and spoil each other, waiting therefore for a showery time being a great mistake. If the soil in the trenches has been exposed long enough to become hard and dry well water it a few hours prior to planting, and the plants ought also to have a thorough soaking before being moved with a good square of soil and roots. Late Celery especially usually succeeds best one row of plants in a trench, the latter being about 18 inches wide, and somewhat shallow on cold wet ground, with 4 feet spaces between them. Being put out 8 inches apart nearly as many plants can be grown in a trench as would be the case if double lines were planted, and they can be more expeditiously and carefully moulded up. In any case deep trenches with hard, dry, and shrinking sides are objectionable, a moderate amount of well-decayed manure lightly forked into the trenches, from which the roots can readily escape into the surrounding soil producing the best though not necessarily the largest Celery. Rows well established should have an occasional thorough soaking of water or liquid manure, the more advanced having their small lower leaves and any suckers and weeds there are cleared away, a little fine mould being then chopped down from the sides of the trenches. Use soot and lime freely about the plants if slugs are troublesome, and if extra clean early stalks are required closely bandage up the stems with several deep folds of brown paper, perfect blanching being then insured, whether or not they are further moulded up.

**CELERIAC.**—Where there is a demand for roots of Celeriac no time ought to be lost in getting them finally planted out. The crop pays for good culture, but should be grown on the surface of tolerably rich ground and not in trenches, a space heavily manured for and newly cleared of Cauliflowers answering well. In this case the only preparation needed is to heavily hoe the surface of the ground and to rake off all rubbish, but if ground has been specially manured and dug for this crop make it very firm, stout Turnip-like roots and not gross foliage being the aim of the cultivator to produce. The plants having been duly pricked out in a shallow bed of manure and soil, similar to ordinary Celery, will move well and should be put out about 18 inches apart each way, though 15 inches suffice for the newer French varieties, these being of more compact growth, also forming superior roots to the variety principally cultivated in this country. The plants will need watering occasionally in dry weather; the ground being kept clean and the surface loose between them, is all the further trouble needed.

**LATE PEAS.**—William I., Chelsea Gem, and William Hurst are among the best that can be sown for giving extra late dishes of Peas, the two last named being particularly suitable, as these can be easily protected whenever severe frosts are imminent. All being of quick early maturing growth, are frequently sown too early, the crops being fit to gather before the regular late Peas are over. It is a good rule to save seed on the earliest rows of one or more of the varieties named and to sow this directly it is ripe. There is then little likelihood of being too early, especially this season, while new seed always germinates more strongly than any that is older, this being no small advantage at a time when mildew and other evils have to be contended with. Open rather deep drills, well moisten these, then sow the seed rather thinly and level over the soil. Later on mulch between the rows and water frequently, the aim being to keep the plants growing strongly, otherwise they will crop prematurely.

**COLEWORTS.**—Some imagine this to be a very distinct vegetable, but it is really only a form of Cabbage, and Cabbages planted in July may often be used for Coleworts in November, but they are not so hardy as the Rosette Colewort, and this is the variety that should be grown. To be serviceable they should be planted out before July is over. They do not grow to a large size, and may be planted at a distance of 15 inches apart. They are equally as hardy, and more delicate on the table than Savoy in winter.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### FOREIGN BEES.

We had hoped to have put several varieties of bees on trial for the purpose of testing which was the best, but fear we have been frustrated, unless the Heather gives a chance. By far the best hives in the neighbourhood belong to a relative of my own. Every hive has one cover of supers filled. The bees are first-crossed Syrians. It is true, however, his hives are in a better situation than mine, although only half a mile distant. Ninety per cent. of my hives have superseded their laying queen with a young one.

#### PROLIFICACY IN BEES.

If it was not for the fact of my knowing something of human nature I should be completely puzzled to know why foreign queens being prolific, and the bees good nurses, bringing many young ones forward, making strong hives should be a fault, when the same condemnatory writers of prolificacy in bees recommend the joining of one or more swarms together. On similar grounds it may be said that good honey gatherers is also a fault. As I previously reported, my Punic bees during the spring months gathered honey when the rest of the bees were comparatively idle, resulting in the hives of the former being too full of honey to allow full development of the laying powers of the queen. Of course there is a remedy for that in having larger hives, or depriving sooner than we are accustomed; but in spite all that can be said against prolificacy, it is the key to having large yields of honey.

#### PURE PUNICS.

I have not as yet had a chance to know the honey gathering qualities of these, but on the twenty-fifth day after queens began laying I saw young bees airing, and on the 31st many were carrying pollen and honey. They are extremely active, and if the smallness of the blacks is not against them, everything else is in their favour as good bees.

#### SUPERS.

These are being filled only upon unswarmed hives, and that but slowly. At the present there is little surplus honey. But should the weather clear up for a few days a large yield may be expected from both stocks and swarms. Some of the former have an extra supply in their upper stock box. Should the weather be unpropitious that will be taken, and the bees fed. Swarming has given two-thirds more than will be wanted as stocks, but what will be done with the surplus bees I have not decided. I do not approve of the brimstone pit, but when the bees are not required, and can do no good to already strong stocks, what else can be done with them? Some of the Eastern people eat bees; if it become fashionable here then it will be a ready way of disposing of the surplus, and a new article of diet introduced.

#### SWARMING.

I have had two or three busy days hiving swarms, most of them from hives that were weeks ago enlarged both above and below. The nature of bees must be altered before swarming can be prevented, but after all when hives can be induced to swarm early it is the best and most profitable system of bee-keeping. Young queens and new combs are ensured, both essential to profit; for say what we will in favour of combs many years old new ones far outstrip them, and the present year will demonstrate to many the folly of keeping other than young queens for stocks. By this system with large hives the surplus bees minus the most exhausted queens are joined to the young ones, and with plenty of stores for keeping them through the winter success is certain, and early swarms with profit insured.



## SHAKING BEES.

I have often warned your readers against shaking swarms into, or in front of, their permanent hive and site when brought immediately a little distance from where they were first hived. Before shaking them they should be located some time in the hive they were placed in and upon the site they are to occupy. If that precaution is not taken there is a great risk of the bees flying back to the original place, and if the queen is young, or perhaps several of them in the swarm, queen and bees are apt to fly back. This gives extra trouble and annoyance to the bee-keeper; and, what is worse, if several swarms are on the wing at the same time the bees get mixed, and when hived fly off, in many cases the queen being killed. In hiving bees everything should be done expeditiously, and with caution and judgment.

## PATENT FRAMES.

A correspondent sends me two bars, which he says were made from patterns he had from me twenty years ago, and which appear to be similar to Meadows' patent frame. I herewith enclose two pieces from the bars sent. You will observe they are grooved, but not cut through. In the one case they were jammed into notches, and in the other two screw nails closed the bar. The tongue on the end of one piece was for sliding into the frame, or could be used in supers for the purpose of interchangeability, and, as will be seen, it is concave on the upper side, which gave the under the desired pitch for the cells. This frame was fully described in a contemporary about fifteen years ago by a neutral correspondent. Any person has full liberty to make, use, or sell frames like those which I have described, but they have no metal ends.—A LANARKSHIRE BEE-KEEPER.

## MR. J. M. HOOKER AND THE STANDARD FRAME.

MR. J. M. HOOKER, page 56, takes the "British Bee Journal" as his authority in replying to "A Lanarkshire Bee-keeper," but he touches on a matter I am interested in when he says, "After a good many meetings a frame of a certain size was adopted, and has not since been altered." That is by the British Bee-keepers' Association. Mr. Hooker was one of the Committee appointed to recommend the best size of frame to be advocated as the best, and this Committee had one meeting on March 16th, 1882 at the Langham Hotel, at which the Woodbury frame, first published in this *Journal*, was adopted, and has since been called "The British Bee-keepers' Association Standard Frame;" but this "one" meeting did not define the top bar, so they had another meeting on August 4th, 1882, at which the top bar was defined to be 17 inches long—making two meetings in all. In the report drawn up by this Committee, published in the "British Bee Journal" for September, page 94, it distinctly says "that two meetings had been held." Now, if "two" meetings means "a good many," and it is right to take credit for another man's invention, "A. L. B. K." and myself cannot see things in the same way that Mr. Hooker and his friends do.—A HALLAMSHIRE BEE-KEEPER.

THE JUDGES OF THE CALEDONIAN APIARIAN SOCIETY'S SHOW IN 1875.—In view of the conflicting statements which have appeared on this subject, we think it right to state that the official schedule of the Show held at Glasgow on 8th September contains the names of the Judges in large type in the following order:—Messrs. Abbott, Lauchland, Shearer, Walker, and Anderson. The schedule is before us. Mr. Abbott's name appears to have been omitted from the list in the "British Bee Journal," as cited by Mr. Hooker on page 55 last week.

## SCOTTISH BEE-KEEPERS' ASSOCIATION.

AN Exhibition of bees, hives, and honey will be held at Stirling on July 28th, 29th, 30th, and 31st, in connection with the Highland Agricultural Society's annual Exhibition. A liberal schedule of prizes of the value of £50 is offered. Classes open to all comers for hive appliances, comb honey, extracted honey, granulated honey, &c., and special classes open to residents of Scotland only. A meeting was held in Glasgow in April last of persons interested in bee-keeping in Scotland, at which there was a good attendance. The late Secretary of the Caledonian Apiarian Society, Mr. R. J. Bennet, explained that for the last two years this Society had practically ceased to exist, and that the meeting had been called to consider whether an attempt should be made to resuscitate the old Society, or whether the interest of bee-keepers in Scotland would not be better served by starting an entirely fresh society under a new name. It was unanimously resolved to take the latter course. It was agreed that the new Association should endeavour to carry out the same work in Scotland as the British Bee-keepers' Association did in England, and that local bee-keepers' societies should be invited to affiliate themselves with it.

It must be most gratifying to Scottish bee-keepers that they were at once able to find a gentleman of position and energy willing to undertake the duties of Honorary Secretary in the person of Thos. D. Gibson Carmichael, Esq., of Cheefswood, Melrose, N.B., who suggested that the Society should be called the "Scottish Bee-keepers' Association." Rules have since been drawn up, members enrolled, and satisfactory arrangements made for holding the above Show, which it is to be hoped will be well supported.—JOHN M. HOOKER.



**TO CORRESPONDENTS**

All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**The Sultan Strawberry (J. R. B.).**—We think the Strawberries are correctly named. They are full-sized well-grown fruits of good quality. We have tasted the Sultan more richly flavoured, soils and seasons exerting an influence on the quality of fruits. There was not the slightest need to apologise for your very creditable letter.

**Tomatoes (Sussex).**—You will probably err in keeping the house so close as you indicate, especially if the atmosphere is moist at the same time. Intelligence must be exercised in carrying out instructions. Avoid a close damp atmosphere if there are symptoms of disease in your plants.—P.S.—After the preceding lines were in type we received the diseased fruits, and can only refer you to page 57, where the disease is figured.

**Brugmansia Planted Out (H. F. E.).**—Brugmansias are planted out every year in the London parks, and there grow freely and flower profusely. They are cut round a week or two before they are taken up in the autumn. They are potted very firmly. When most of the leaves fall the stems are cut back to hard wood, pruning them as closely as Fuchsias and Pelargoniums are pruned, kept cool and dry, but not dust dry, through the winter, and started steadily into growth in the spring in a very light position. Cutting round the roots checks luxuriance, and facilitates the ripening of the wood, which is essential for the production of flowers another year. But the work must be done with judgment, and not regardless of the condition of the plants and the weather. Firm, healthy growth should be the object of the cultivator.

**Azaleas Dying (Kentish Subscriber).**—The most common cause of Indian Azaleas dying is through decay at the neck or collar of the plants. This may arise from their having been kept underpotted, the ball a hard mass of roots, and the growths stunted so that little beyond flower buds and a very few leaf growths are made. This occasions excessive waterings, the keeping of the collar constantly wet, which affects the bark tissues and causes the plants to collapse. It is a very common occurrence, and usually follows in plants that have been grown quickly and freely in their early years, then given a check so as to induce floriferousness. These plants require very careful management, for the enfeeblement consequent on the great strain put upon them in flowering is often so great that they make very little growth, and some die, not immediately, but within the ensuing few years, generally before the third; in fact, they become so exhausted by their first efforts as to for the most part succumb. Several plants also fail from occasional over-dryness at the roots, causing the fine silk-like fibres to shrivel, the result being precisely the same as that from excessive waterings. Active root action is essential to healthy growth. Enfeebled plants exhausted by the first profuse crop of flowers should not be allowed to produce any the following year. The splendid plants grown in Belgium have the flower buds removed in alternate years for encouraging vigorous growth, but many persons who purchase Azaleas are apt to flower them to death and expect the plants to do more than they can accomplish. Many Azaleas are also made worse rather than better through repotting, and subsequently errors in watering. They are often sunk too low in the pots, and the new soil not made half so firm as it should be. Again the old balls of soil are not infrequently too dry when the work is done, and water too lavishly applied immediately afterwards. All mistakes of the nature indicated act prejudicially on the plants. The chief causes of Azaleas dying are extremes—drought is fatal—a plant neglected seldom recovering, and an excessive amount of water is equally as fatal as is excessive dryness. Syringing in winter is unnecessary, and in summer must be governed by the weather. Syringing twice a day regardless of circumstances would be calculated to injure your plants.





GRADUAL changes have been noticeable for some years in the style of summer flower bedding, and the tendency to introduce greater freedom and variety has become more marked every season. Several causes can easily be found for this. In the first place, what is generally termed the Pelargonium style was, no doubt, for a considerable time carried to the extreme. The idea seemed to prevail that it was almost impossible to have too many brilliant scarlet, crimson, or pink masses of flowers in formal oblong, square, or circular beds, and the result was that public and private gardens of all sizes were almost overwhelmed with these plants. The public taste became surfeited, a change was needed, and the system of carpet bedding was speedily developed to share the flower garden with the Pelargoniums, Calceolarias, and Lobelias. Here, again, excess has brought about another change, carpet beds have for several years been steadily decreasing in numbers, and many amateur and professional gardeners have awakened to the fact that hundreds of beautiful hardy and half-hardy plants, much more easily and cheaply raised or grown, have been neglected for the sake of their delicate but less interesting rivals.

Pelargoniums of all sections are unquestionably useful plants, and the moderate employment of the Zonal section in summer bedding must be commended because they furnish rich colours that are always welcome in our usually sombre gardens. For small suburban and town gardens, where the supply of plants is renewed annually, they are also valuable, and the trade in such plants constitutes quite an important industry around the metropolis and large towns. In large gardens and parks, too, where bold, distant effects are required, they serve an equally useful purpose. It is, therefore, apparent that no wholesale condemnation of Pelargoniums should be attempted, and it is only against their excessive employment that reasonable arguments can be urged when considering their characters and qualities as bedding plants. But another matter has militated against them and similar plants, and that is the expense and care requisite in producing or preserving the necessary stock. When so many thousands were needed to fill the scores of large beds in extensive flower gardens, numbers of heated propagating houses or pits and frames became indispensable. The labour at the time of propagating and bedding out became a serious question in the annual expense of a garden, and when reductions were rendered indispensable in private establishments this was the department which had to suffer first, and cheaper substitutes had to be found. Beyond all these, in many places bedding plants had to be provided for with but little additional accommodation, so that other plant and fruit houses had to be pressed into the service, often to the unavoidable detriment of their legitimate occupants. It is not surprising, therefore, considering all these difficulties and disadvantages, that Zonal Pelargoniums have declined somewhat in popularity.

Similar remarks apply to the foliage plants principally employed in carpet bedding, with the additional point against them that much more time and trouble were requisite in the preparation of elaborate designs, the planting, and the subsequent attention. Then, too, there were fewer positions where this style could be employed to advantage. The tendency to render the designs intricate and fantastic rather than simple and effective was also

opposed to its continued popularity, while foliage colouring alone can never possess the same interest as floral pictures with a due foil. Wherever carpets are retained, and they are perfectly appropriate and even desirable in some situations, they cannot be too clearly, boldly, or simply designed, and attention to this has been the secret of the success at Hampton Court and in other public parks.

The mixed style has received more attention in recent years; notwithstanding some obvious faults there has been a steady improvement, and it appears destined in good hands to be the favourite method for years to come, as it admits of many distinct developments. In Hyde Park much has been done to lead the public taste in this direction, and we have had occasion to repeatedly notice the pleasing changes introduced and the resulting effects. This season a still greater departure from conventional methods has been adopted with proportionate success, for while giving examples of different styles for their respective admirers, a combination of qualities has been effected in a more natural and free method of planting, which gives a distinctive character to the whole. It has attracted the notice and admiration of many critical observers, and a few notes on the subject are given as hints to those who are unable to visit the London parks.

The bedding display in Hyde Park during the summer months is mainly confined to that portion which extends from the Marble Arch to Piccadilly, between the carriage drive and Park Lane, the principal beds being in the centre of this somewhat narrow tract. For a portion of the distance the beds are on one side only, then there is a central raised lawn with the beds in similar pairs, and then again a third division has the beds on one side, the left coming from the Marble Arch. The last named is an innovation and a decided improvement, for in the place of a narrow grass strip, which was chiefly occupied with beds, we have a fine turf slope from the outer walk towards the railings, which is utilised for the ordinary beds and for large plants plunged in groups as a background. The carpet beds are here seen to much greater advantage, as they invariably are on a moderate slope. Throughout the beds are cut in the dense bright green turf, and the plants in every case thus have a natural and pleasing foil.

For many years it has been the custom to plunge large specimen Palms, Phormiums, Bamboos, and other plants between the beds or in the centre of the raised turf. This season several large flowering plants are employed in a similar way for the side slopes and with admirable results. Fuchsias are especially prominent either as scattered plants or in groups, and well-grown specimens 4 or 5 feet high, abundantly clothed with foliage and loaded with flowers, have a charming appearance, the season having evidently suited them. The favourite varieties are Annetti, Mrs. Marshall, Tower of London, Henry Brooks, Madame Cornelissen, Earl of Beaconsfield, Elegans, and Empress of Germany. Specimen Zonal Pelargoniums are planted in the same way, but mostly in groups, as also are Erythrinas, Clematises, Ivy-leaved Pelargoniums, and Plumbago capensis, these being chiefly confined to the new turf slope at the Stanhope Gate end of the Park Lane series of beds.

Mixed beds are very numerous, and a few of the more distinct may be noted to indicate the general style. Fuchsias are employed in many instances as the tallest plants; thus we note the following arrangements:—Mrs. Russell and gracilis variegata, with a ground of Coleuses and Violas, and an edging of Iresine Herbsti and Lobelia Emperor William; Madame Cornelissen is planted with Abutilons in a ground of Violas; Mrs. Marshall and Carnations have a base of Violas; Empress of Germany and Sunrise, with a ground of Viola Mrs. Turner, edged with Pelargonium Queen of Queens and Lobelias; Empress of Germany is also planted amongst Vitis heterophylla and Violas; Tower of London with Viola Mrs. Turner; Mrs. Marshall with Coleuses and Viola lilacina; Madame Cornelissen with Viola Holyrood; Golden Treasure with Melianthus major or Violas, and gracilis variegata, Dracæna congesta, and Funkias or Alternantheras. In all these



examples the Fuchsias are well developed plants, they are allowed plenty of space and have a good appearance, the marginal lines being dark or light to contrast with the central plants.

Amongst the other mixed beds Ivy Pelargoniums and Heliotropes are employed with excellent taste, as the taller plants amongst Violas and other dwarf plants, with an edging of Iresines, Coleuses, Pelargoniums, Lobelias, or Pyrethrum. One example of Heliotropes with Carnations on yellow Violas margined with Iresine Lindenii and Pyrethrum Golden Feather is effective, as also is another of the same plants on a ground of Snowflake Violas, and Heliotrope President Garfield on yellow Violas margined with Coleus splendens. Iresine Herbstii and Lobelia Blue King provide a good combination; while tall Heliotropes with Chrysanthemum frutescens or Viola Snowflake is scarcely less noteworthy. Ivy-leaved Pelargoniums with Sweet Peas or blue Violas edged with Coleuses and Fuchsia Cloth of Gold make a beautiful bed, as do also Ivy-leaved Pelargoniums with Liliun auratum or Viola Blue Bell edged with Coleus Verschaffeltii and Lobelia Blue King.

Single Petunias look well in several instances as the leading plants associated with various others distinct in the colouring of the flowers or foliage. In one bed Coleuses and yellow Violas formed the ground, edged with Iresine Herbstii, Lobelia Ebor, and Fuchsia Cloth of Gold, pegged down. In another Amaranthus and Abutilons constitute the basis. Selecting from the other mixtures some of the most conspicuous the following are worthy of attention—*Dracæna congesta* and Tuberous Begonias on a base of *Dactylis glomerata variegata*; blue Verbenas with white double Petunias on dark blue Violas; scarlet Tuberous Begonias on a ground of *Mesembryanthemum cordifolium variegatum*, edged with *Echeverias*, most effective; *Erythrina crista-galli*, vigorous plants bearing abundant large bright red flowers on a base of Violas; Cannas, *Liliun auratum*, and Canterbury Bells on a base of Violas edged with Iresine Lindenii, Lobelias, and *Mesembryanthemums*; Stocks and Violas, edged with Pelargonium Queen of Queens and Viola Blue Bell; *Dracæna congesta* and *Ficus elastica* on *Oxalis floribunda rosea* and *Alternantheras*, and various dwarf Roses on a dense base of common Musk, edged with purple Verbenas, a pleasing combination of colour and perfume.

There are also good examples of the ordinary Pelargonium beds, with marginal lines of Lobelias and other plants; the few carpet beds, too, are effectively designed, but we need not refer to these now, as the object of these remarks is to draw attention to the more special features of the Hyde Park gardening as indicated in the preceding notes.

### WET WEATHER STRAWBERRIES.

HAD the wet weather experienced during the first few days in July lasted much longer the Strawberry prospects would have been completely marred, and as it was large quantities of fruit rotted on the ground. Fortunately the second week in the month finished better, and we have since been favoured with glorious weather to the no small benefit of the Strawberry and various other crops. While the dull, showery weather lasted I was disposed to congratulate myself upon superior forethought, especially with regard to preparing Strawberries for a wet season, this conceit not being taken out of me by a remembrance of the severe handling I had several years ago over the trenching question. Latterly I have had opportunities of inspecting several large and well managed kitchen gardens, and in nearly every case manure had been very freely used and trenching resorted to in the preparation of the beds. The natural consequence of this was a remarkably strong, leafy growth—it was never stronger, in fact—and a great abundance of fruit on the ground under it. Where good space had been allowed, the rows being not less than 3 feet apart, the fruit ripened fairly well, but in several instances the plants met all round the leaves, quite smothering the crops. When I returned and contrasted the state of the crops in the garden under my charge with that I had just seen I felt, as before stated, very comfortable indeed. Who in the southern or home counties has not seen one or

more of the immense tracts of ground devoted to the cultivation of Strawberries for the market without also noting the sturdiness of the plants and the great prominence of the fruit? The field-grown plants are well clear of each other and wholly surrounded by fruit, a band of colour being plainly observable at a considerable distance from the rows. Not only are the field crops exceptionally heavy, but the fruits attain a good size and are of superior quality let the weather be what it may; I had almost added let the varieties be what they may, but this would be going too far, unless in comparison with the same sorts grown in private gardens. Given plenty of light and air there is little likelihood of the fruit rotting, and I hold that it is wiser to prepare Strawberries for withstanding all weathers than to fit them for a dry season only. That they are hungry and thirsty plants I readily admit, but that is no reason why they should be made toppers and gluttons. On the contrary, all such bad habits should be combated, to a reasonable extent at any rate.

The market growers have the advantage of a good open position, this, let the culture be what it may, favouring sturdy productive growth; but it is possible for private gardeners to succeed equally as well, if not better, if only they would go the right way to work. In very hot and dry positions something ought to be done to increase the depth, richness, and moisture-holding properties of the soil, looseness, however, being guarded against; but in the majority of gardens heavily manured, newly and deeply trenched ground is quite unsuited for Strawberries unless grand masses of foliage and not the fruit are of primary importance. Strawberries succeed well on ground trenched for preceding crops, this having settled down considerably and not again manured, and I have known trenching specially for them answering remarkably well when the plants are fruited for one year only. It is during the second and third seasons that the leafy growth is most troublesome, and owing to the closeness of the plants much fruit is spoilt. In my case all the preparation attempted, or sometimes possible, is to manure, deeply dig (not trench), and otherwise well prepare the intended Strawberry site for Ashleaf Potatoes, and directly the latter are cleared off the surface is levelled, fined down and firmed, and the Strawberries put out. The latter are usually layered in soil or manure among the rows of established young plants, and being firmly fixed and well attended to soon become established and strong enough to give a valuable early crop the following season. Naturally they require to be well fed from the surface, heavy and early mulchings of strawy manure being also needed for preserving the moisture, but no amount of surface-feeding causes a superabundance of leafy growth, this being principally brought about by a loose root run and much manure deeply buried. Three crops are ample from the main and late breadths of plants; in fact, they pay well if only fruited once, this being the extent of the duration of plantations intended to furnish the earliest crops. In any case there ought always to be a fresh bed made every summer, and the sooner it is planted after these lines appear in print the better. Both the earliest and finest fruits are produced by strong plants, and they are therefore of good service in lengthening out the supply of dessert Strawberries.

Much in all instances depends upon the selection of varieties, and with so many recent additions to the list no great difficulty ought to be experienced in selecting five or six, and fully that number ought to be grown to suit all soils and localities. Extra strong growers, including Vicomtesse Héricart de Thury, Sir J. Paxton, Sir Harry, and The Captain, are scarcely suitable for rich and deeply cultivated soils, but succeed admirably as I cultivate them. So also do President, James Veitch, Sir C. Napier, Souvenir de Kieff, Duke of Edinburgh, John Powell, Eleanor, and others of moderately strong growth. The best wet weather Strawberries, though, are those of sturdier compact growth, of which the good old Princess Alice Maud is a noteworthy type. Owing probably to its unsuitability for pot culture this variety is now seldom met with in private gardens, and in the open fields has been ousted by earlier sorts, as a rule much inferior in point of flavour. With us it is a sure and heavy bearer, ripening at the same time as Sir J. Paxton; the fruits of good size, bright in colour, firm, and briskly flavoured. It never fails, and is particularly serviceable during a wet season. The newer and earlier King of the Earlies also does well in a wet season; the flavour being perhaps a little too acid, a "good fault" though; and if only a little larger it would become popular. Noble, if fruited once—and it does not pay to keep it on the ground more than one year—ripens well in wet weather, and though second rate as regards quality, it is yet, on account of its earliness and great size, the most profitable Strawberry in cultivation. We gathered 1 cwt. of fruit of this variety at a time when they were worth 1s. and upwards per pound in the market, but no old plants contributed towards this success. Dr. Hogg, again, never makes too much foliage, and the fruit ripens surely in all weathers. It is a



moderately late variety. Loxford Hall Seedling, a still later Strawberry, is somewhat fickle and very liable to red spider, but it ought to be given a trial everywhere. Where it succeeds well it will be found of very compact productive growth, the fruit being large, firm, and briskly flavoured; and this again is a grand wet weather Strawberry, though the plants ought not to be preserved more than two clear seasons, the two-year-old stock giving a good succession to those fruited for the first time. Laxton's Latest of All in many respects much resembles Loxford Hall, and in all probability would succeed where the latter fails. It is of compact growth, very fruitful, and altogether a very desirable late variety. Jubilee I cannot persuade to grow sufficiently strong, the start being made with very weakly runners.

In arranging the rows of plants in new beds the habits of the different varieties ought to be taken into consideration. Many gardeners allow good space between the rows, but fail to do so with the plants in the row. They ought not to touch each other anywhere, and if this rule was adhered to there would be fewer failures in wet weather and superior crops generally. On rich deeply cultivated ground the rows of the strongest and moderately strong growers should be 3 feet apart, and the plants 2 feet asunder in the rows. If this is more space than can well be afforded, grow quick growing vegetables between them this autumn. On our strong, yet firm, and not much-manured ground, 30 inches is sufficient for strong, or moderately strong growers, 18 inches dividing the plants in the rows, and they are cleared off before they overlap each other. This is more space than the sturdy growers alluded to require, the rows of these being 2 feet apart and the plants 18 inches asunder in the rows, 3 inches less space being enough if they are to fruit once only.—W. IGGULDEN.

### FLORAL ARRANGEMENTS.

THOSE who have a good selection of herbaceous plants, annuals, and hardy shrubs will during the next few months find plenty of materials for working out effective and showy arrangements, but care and judgment, as well as good taste, must be exercised. The abundance of material in some cases induces an inclination to overcrowd, which not only prevents the individual flowers being seen to advantage, but is also fatal to the production of that artistic lightness and finish which all well-executed arrangements exhibit. Another point connected with this matter, which in my opinion does not receive sufficient attention, is to provide a constant succession of change in the combinations, for however much admired certain arrangements may be when first carried out, if repeated often they become monotonous. I hold, therefore, that ingenuity in creating varying designs is quite as essential to those who would become proficient in this branch of the gardener's art as taste and skill in executing those designs in the best possible way.

In order to enable the decorator to carry out these ideas the common mistake of using too many colours, or too many kinds of flowers in one vase or other arrangement, must be avoided. It is really surprising what can be effected by associating two kinds of flowers with suitable greenery in some cases, and in others arranging one variety in each glass or group of glasses, and by frequently varying the materials for each group and mixing other suitable flowers together. Given the same materials to begin with, if mixed in each glass without any definite idea, although the colours might be well blended and the flowers lightly arranged, there would be a want of distinctness and character.

At the present time Roses are abundant and good, and they are such general favourites that they may always be largely used without any doubts as to their giving satisfaction, provided they are well arranged, but they are not by any means the easiest flower to arrange. They look exceedingly well when placed singly in specimen glasses with a few of their own leaves added, these glasses being placed at intervals, or grouped upon the breakfast or dinner table, or in any other position where they are required. It is, however, often desirable to have good masses of them placed together, and it is in such cases that they repay extra care in their arrangement. So as to avoid overcrowding, baskets filled with damp moss, with a few pieces of *Lygodium scandens*, *Asparagus tenuissimus*, or shoots of Honeysuckle trailing around them, form a suitable groundwork on which to arrange Roses; but instead of placing them closely together for the purpose of covering up every particle of moss, let each flower stand well clear of the other, and a few of their own verdant leaves be placed under and around them in such a way as to avoid flatness, taking care that the leaves point in various directions. A few half-opened buds should also be mingled with flowers in a more advanced state. Some of these may be wired, not to give them a greater length of stem, because the stem must be inserted in the moss to keep the flowers fresh,

but to retain them in the exact position required, as it is important in all floral arrangements that the flowers point in various directions, and that some be elevated above the others. The only objection that I know to arranging Roses in this way is that they do not last quite so long as when placed in water; but with moss thoroughly wetted in the first place, and the superfluous water wrung out, there is not much to complain of on that point. Where they are arranged in water in flat dishes, a light wirework frame placed over the top enables the operator to use the flowers to the best advantage, and plenty of leaves or a few Fern fronds can easily be placed so as to hide the wire without giving a crowded appearance.

Pæonies, which are now fast fading, have this season made a fine show, and for arranging in large trumpet-shaped glasses, with shoots of Syringa and a feathery branch of *Prunus Pissardi* for the centre, few flowers can excel them. For smaller glasses of various descriptions the numerous varieties of Shirley Poppies, when associated with field Grasses, Ferns, or shoots of the variegated Honeysuckle, form charming combinations which are always admired, and a few Marguerites arranged with them form another pleasing effect, care always being taken to have the scarlet varieties placed in glasses removed from the pink or rose-coloured ones.

The many showy types of both annual and biennial *Dianthus* are now yielding a good supply of their charming flowers, which are especially useful for cutting purposes, and are well adapted for filling the tops of trumpet shaped glasses, while for the dish-like vase, Rose, Clematis, single flowers of *Liliums*, *Petunias*, and Pansies make a fine show.

The purple and yellow varieties of *Aquilegias* placed together with a little of their own foliage and a few fronds of some kind of *Pteris* form a striking mixture, while the white form shows to advantage when mixed with pink and rose coloured *Dianthus*. Canterbury Bells, Larkspurs, Delphiniums, Irises all lend their varied forms and bright colours to floral embellishments in their many distinct features, while later on Phloxes, Dahlias, *Gladiolus* and summer flowering *Chrysanthemums* will supply a wealth of blossoms which are worthy, and indeed indispensable for the adornment of the homes of the wealthy, and which are also within the reach of the cottager.—D. W. C.

### SEASONABLE NOTES ON PEACHES AND NECTARINES.

WHEN Peach and Nectarine trees are grown in cool houses the fruit from which is required to ripen by the end of August or early in September, special attention ought to be given them during the next few weeks in order to secure large well finished fruits. It is surprising how much may be done towards the attainment of this object by watering, feeding, and good general management during the later stages of growth. Where the trees are in good condition by this date the roots will be in a thoroughly active state, and therefore able to appropriate large quantities of stimulating food if it is applied with judgment. Much depends upon the material of which the borders are made as to the amount of water required. Where the soil is heavy and not particularly well drained much less water will be required than in the case of well drained borders of an open nature. In all instances the only safe course to pursue is to examine the soil by thrusting a pointed stick or iron rod into it to the depth of a couple of feet, the surface soil being often misleading, continual syringing keeping it in a fairly moist state when the roots below may be in need of water. On the other hand such is not always the case, and it is bad practice to get into the custom of watering borders at regular intervals without first ascertaining their true state, especially when the rod test is so simple and so sure a guide. These are points in connection with successful culture which require continual repetition as each season comes round.

Another important point where trees are planted near walls, either in houses or in the open air, is to see that the roots near the stems are well supplied with water, for there is often a great quantity of fibrous roots at that point, and the walls absorb much moisture, so that it becomes necessary to give the trees double the quantity of water there that they require in other parts of the border. All who are not satisfied with the health of their Peach trees or the size of their fruits when the trees are not overcropped should see that the roots are not starved around the stem of the tree. The best of all stimulants that I have tried for Peach trees is to sprinkle guano on the surface of the border at the rate of 3 ozs. to the square yard, and water it in with liquid manure obtained from the drainings of a manure heap composed principally of horse manure. If the liquid manure is of a very dark colour dilute with an equal quantity of water.

Exposing the fruits is often deferred too long, with the result



that they are pale in colour, or the colour comes in patches in consequence of the leaves having shaded them. The trees should now receive their final tying down, all laterals (where not wanted to cover blank spaces) be removed, and the fruits be fully exposed to the sun. In many cases it will be necessary to tie the shoots a little on one side, and even to remove a few leaves. Any shoots which are not situated well above the trellis, if carrying fruits, should be raised by placing a stick underneath them, the ends resting on the trellis. This will bring the fruits well up to the light, and by performing the operation thus early the fruits will colour evenly. In the case of Nectarines that are trained rather close to the glass a light shade ought to be given in bright weather, otherwise many kinds, such as Pine Apple, Humboldt, and Lord Napier will become spotted instead of assuming their naturally rich colour. If Nectarines were trained 2 feet from the glass we should hear less complaints about red spider attacking them. Where it is necessary to hurry on the fruits to have them ripe by a given date the houses must be closed early and thoroughly syringed, allowing the temperature to run up to 90° or 95°. This treatment is perfectly safe so long as plenty of water is used at closing time. In cases where it is necessary to retard keep the ventilators open constantly, but syringe the trees morning and afternoon whenever the weather is bright until colouring is well advanced, when syringing must be discontinued by degrees and a light shade given.—H. DUNKIN.

### THE BRITISH FRUIT GROWERS' ASSOCIATION. CONFERENCE IN BEDDINGTON PARK.

At a meeting of this Association held on Thursday last, the following was adopted as the programme for the Conference in Beddington Park on Monday, August 3rd. Sir James Whitehead, Bart., one of the Vice-Presidents of the Association and Master of the Fruiterers' Company, will take the chair at 4 P.M., and will deliver an opening address, to be followed by Mr. T. Francis Rivers. The next subject is "Object Lessons in Fruit Growing for Cottagers and Allotment Holders," illustrated by diagrams, by Mr. John Wright. Mr. G. Hammond will follow with some hints on "How to Encourage Fruit Culture amongst Small Farmers and Cottagers." Mr. Joseph Cheal will deal with the "Preparation of the Soil for Fruit Trees," Mr. George Gordon will discuss the "Extension of Fruit Culture and the Work of the British Fruit Growers' Association," the Rev. T. W. Sharpe proposes to consider the best methods of including fruit culture in the technical education scheme, while several other members have promised to take part in the proceedings and to contribute hints likely to be of interest.

It was resolved early in the season to render the meeting as useful as possible to the numerous cottagers and allotment holders in the district; the programme has therefore been prepared with a special view to their requirements. The Exhibition held by the local Society is expected to be both large and interesting, and if the weather prove favourable a large attendance is anticipated.

I am also desirous to state that important papers and addresses on fruit subjects are promised for the Conferences at Cardiff on August 12th, the Crystal Palace on September 4th, and Edinburgh on September 10th.—LEWIS CASTLE, Hon. Sec., *Hotham House, Merton.*

### PRODUCTIVE TOMATOES.

At page 21 Mr. Buchanan gives the weight of fruit produced by 700 plants, also the number borne by several plants within 4 feet of the ground, both figures indicating good culture and a productive variety. A fruiterer here who saw their Tomatoes in the Glasgow market said they were superior to anything there; also a gardener who visited them last autumn, when describing what he saw, could compare the produce upon the plants to nothing more like them than ropes of Onions. They were grown in two span-roofed houses, 130 feet long by 14 feet wide, and about 3 feet to the eaves. I erected a small house, 50 feet by 12 feet, and 5½ feet to the eaves, last spring, and planted it with 240 plants out of 3-inch pots on April 24th, cut the first fruit July 11th (Ham Green). Upon one variety (Goldfinder) there are as many as twenty fruits swelling in one truss, besides what will eventually swell when these ripen. Many of the fruits are slightly corrugated, which detracts from their appearance and market value. I do not like either Perfection nor Hackwood Park Prolific so well as Ham Green Favourite; they both have a coarser appearance, though good fruit and appearance are everything in the market. The variety I like best is the produce of a fruit picked out of a basket which came from the Edinburgh market. Fruit very round, conical, terminating in a point; a free setter; colour very bright red; a strong grower; foliage rather lax. I am trying a new American variety, Thorburn's Long-keeper, said to keep longer than any other sort after being cut—more of that anon, when its keeping qualities will be tested. My plants will average 7 feet high, with foliage

grass green from the ground to the apex. The only disease yet seen was the fungus figured and described by Mr. W. G. Smith on page 57. Three fruits in one truss were found attacked by it, but when seen were cut off and consigned to the furnace. I attribute the success of my culture to the advice received from a gardener when I commenced to cultivate them. He said, "Be not afraid to use the coal and coke bing."—G. McDOUGALL, *Ravenna Cottage, Stirling.*



### MODES OF CHRYSANTHEMUM CULTURE, AND THE BEST VARIETIES.

[A paper read by Mr. Woodcock, Syston Nurseries, Leicester, at a recent meeting of the Sheffield Chrysanthemum Society.]

(Continued from page 507.)

#### PLANTS FOR EXHIBITION BLOOMS.

HAVING disposed of the semi-early flowering section we come now to what are known as midseason varieties, and which include most of the best exhibition sorts. The cultivation of these has so often been treated upon, and by some of the most able and experienced men of the day, that I think I can add little to what they have already said upon the subject; a few general remarks then may be more useful, if only to invoke discussion, than would be a detailed code of cultural rules.

First, then, as to the time for propagation. I have before given it as my opinion that the two best months for propagation are November and January—the first-named month for the majority of the Japanese varieties, and the second for a large section of the incurved, including the Queen family, and I have not as yet seen any reason to alter such opinion. Of course, there are no rules without exceptions, and December may well be selected as the best month for some of the earliest varieties of Japanese and the latest incurves.

Secondly, as to the most suitable compost. In this matter I think Sheffield cultivators are placed at a disadvantage as against cultivators from some other districts, notably Liverpool and Hull. There the loam is of a free sandy nature, such as encourages the formation of an abundance of roots from whatever plants may be growing therein. As a consequence, the turf when taken up contains a large amount of fibre. Most of the loam around Sheffield is of a much less suitable nature, being cold and heavy; not an unproductive soil for many crops when well treated, but not such as causes an abundant root production. Therefore, the turfy loam when obtained is very deficient in fibre as compared with loam from the districts named and many others, including that where I am now resident.

I believe Mr. Tunnington gave excellent advice when he recommended the Sheffield loam to be used fresh as cut, with the green grass still alive and growing upon it. The grass in such case would partially compensate for a lack of root fibre. Three important elements in which I believe the loam around this district to be much lacking are lime, potash, and silica. The first-named may be well supplied in the form of crushed oyster shells and dissolved bones; the second is best supplied in the form of wood ashes, charcoal, and charred refuse generally; the last in the form of sharp sand, river or sea sand by preference. If more of this were used by Sheffield cultivators than is the case I feel sure they would recognise a considerable benefit to their plants by the addition.

One of the reasons I especially recommend seasand is that it contains a small per-centage of salt, and which has ever, when properly used, been found beneficial to these plants. I have before expressed my opinion that it is salt in the atmosphere as well as in the soil which largely assists growers at Liverpool, Hull, Bristol, Southampton, and other like situated towns to obtain such bright colours in their flowers. A friend of mine, a Leicester cultivator and exhibitor, has for some years past mixed salt judiciously with his compost for the final potting, and considers his plants have derived marked benefit from the practice. His plants are always remarkable for their dwarf but robust habit with exceptionally large dark coloured foliage, which special characteristics he attributes to the salt.

A final recommendation in reference to the compost is to see that it is free and open and of a nature that will induce rapid and abundant root production. I believe the sooner the ball of earth can be thoroughly permeated with, and the pots so to speak "filled with roots," when the plants are in their flowering pots, the more likely are they to produce really fine flowers when required.

Another question which, though often discussed, still remains to a considerable extent a vexed question, is that of topping *versus* allowing the plants to make their natural break. I think that as regards the production of the finest exhibition flowers the cutting down system as advocated by Mr. Orchard now has no supporters, though undoubtedly it has its uses for the production of dwarf grouping and decorative plants, carrying respectable, although not really first quality flowers; but many of the advocates of topping say that as good or even better flowers may be by its means produced than by the natural break



system. Mr. Udale when at Shirecliffe commenced the practice of topping a few of the later and tall growing Japanese the second season that he grew flowers for exhibition, and was so far satisfied with the results that each year afterwards whilst he remained there he extended it to more and more varieties. I know that his opinions on the subject now are as strongly as ever in favour of the practice. I think it is a question which should be taken in conjunction with the following.

#### TIMING THE BLOOMS.

Every exhibitor knows what an important subject is the latter and how much depends thereon, and it is as an invaluable aid to success in this that topping at the right date becomes so important and valuable. It is not possible to lay down rules as to what are the best dates for topping each variety, so much depends upon collateral circumstances, such as the district, the weather, and the condition of the plants. Undoubtedly a few of the latest varieties, such as Boule d'Or, L. Canning, Mrs. Irving Clarke, and others may advisedly be topped about the last week in May, others at different dates in June according to their respective earliness, whilst those midseason varieties which are likely to be in about the right time from the natural break are best never topped at all. I will conclude my remarks upon this to the exhibitor, the most important of all modes of Chrysanthemum culture, by giving a list of what I consider are the best fifty Japanese and the best thirty incurved varieties for exhibition.

Japanese (fifty).—Avalanche, Beauty of Castlewood, Eynsford White, Etoile de Lyon, W. W. Coles, Mrs. A. H. Neve, W. H. Lincoln, Puritan, Stanstead White, Edwin Molyneux, Mrs. Wheeler, Sunflower, Volunteer, Mrs. Irving Clarke, Mrs. Falconer Jameson, Madame Baco, Boule d'Or, Jeanne Délaux, Carew Underwood, Comtesse de Beauregard, L. Canning, Criterion, Thomas Stevenson, Madame John Laing, Sarah Owen, Japonais, Lady T. Lawrence, Mr. H. Cannell, Ralph Brocklebank, Improved, Meg Merrilies, M. Bernard, M. Burnet, Marguerite Marrouch, Gloriosum, Comte de Germiny, Madame C. Audiguier, Belle Paule, Condor, Mons. Astorg, Mons. Freeman, Mrs. Frank Thompson, Mdle. Lacroix, Annie Clibran, Mrs. J. Wright, Maiden's Blush, Elaine, Val d'Andorre, Stanstead Surprise, Mdle. Blanche Pigny, and Fair Maid of Guernsey.

Incurved (thirty).—John Lambert, Lord Alcester, Empress of India, Queen of England, Golden Empress, John Doughty, Miss Haggas, Princess of Wales, John Salter, Violet Tomlin, Mrs. Heale, Alfred Salter, Lord Wolseley, Prince Alfred, Mrs. S. Coleman, Princess Beatrice, Lady Dorothy, Mr. Bunn, Beauty of Hull, Barbara, Hero of Stoke Newington, Princess Teck, Mrs. Norman Davis, Refulgence, Lady Hardinge, Jardin des Plantes, Empress Eugénie, Nil Desperandum, Alfred Lyne, and Charles Gibson.

#### SPECIMEN PLANTS.

The cultivation of specimen plants is a subject I need not, I think, dwell long upon. It is one which is certainly not held in much favour by exhibitors generally. There are now, I believe, few growers of them in or around Sheffield, and there are still fewer in or around Leicester; in fact, I do not know of one in that district, consequently no class is made, or prize offered, for them in the Leicester Chrysanthemum Society's schedule. Even those who would like to grow them find that they entail the expenditure of too much time and attention, and when the time arrives that it is necessary to house them, they take up too much valuable space to allow of their being made profitable. Their great value in filling and suitably furnishing the show tent cannot be denied, but it is seldom a show committee can see its way to offer such prizes for them as would reimburse the cultivator for the cost of their production. A dozen of the best varieties for trained specimens are—Bouquet Fait, Hiver Fleuri, Coquette de Castille, Massalia, La Nympe, Peter the Great, Madame Bertier Rendatler, Fleur de Marie, Jardin des Plantes, Mrs. Rundle, George Glenney, and Mrs. Dixon.

#### LATE PLANTS.

Much more remunerative than the culture of trained specimens is that of cultivating plants specially for the production of late blooms. The demand for good flowers at Christmastide and for a few subsequent weeks is each year greatly increasing, consequently the prices then to be obtained for them are satisfactory, the demand always being in excess of the supply. The difficulties attending their production at this season are not great, and the time and attention required in their culture is very small when compared with that required for trained specimens. Insert the cuttings any time in April, or not later than the first week in May. They should be stopped not more than twice, once when about 6 inches high, and again when the breaks are about 4 inches in length, be potted on as required, and be placed in their largest pots about the end of June. If large specimens are required three plants may be placed in a 10-inch pot, otherwise 9-inch pots are quite sufficiently large. Grow them in pots throughout the season. I am in favour of planting out some midseason varieties, to be lifted and flowered at midseason, when quantities of cut flowers are required, but this practice will not be found to answer well in the production of plants to flower in December and January.

The check and reaction necessitated in lifting the plants before the advent of severe frosts would either bring them into flower earlier than desirable, or spoil their chances of flowering at all satisfactorily. Place them in a cool portion of the garden, where they are not much shaded by trees, but where they have the sun directly upon them for a portion only of the day. Of course care and attention will be required in

watering and staking, same as for the others, but they will not need such copious supplies of liquid manure as is being given to those for producing exhibition flowers. Weak liquid manure given once a fortnight through August and once per week in September is as much feeding as they require, or as is beneficial to them.

Towards the end of September, at about the time the others are housed, place these in front of a south wall, or at least in a position fully exposed to the sun, and where they may readily receive a slight protection in case of frosty nights. The best possible protection is a light tiffany covering, so arranged as that it can be drawn over them at night and removed during the day. In such case they will be best to remain outside until the second week in November, unless unusually sharp frosts set in sooner. They should be all strictly disbudded, leaving one bud only to each branch, as at Christmas and afterwards one good flower will (even more so than in November) be found of more value than a bunch of inferior ones. The operation of taking the buds ought to be performed at about the time they are housed—early in November. When housed they will require all the light possible, with free ventilation; also care to avoid attacks from mildew, an occasional syringing on a bright dry morning with a solution of soft soap and sulphur I have found best for this, both as preventive and cure. At Barkby Hall, near to where I reside, the gardener, Mr. Lansdell, grows Chrysanthemums well, as standards, for exhibition blooms and in other ways. All through last December the large conservatory there was finely decorated with some twenty plants grown and treated as above, each



FIG. 13.—MR. W. K. WOODCOCK.

plant being a beautiful bush about 2 feet through, and carrying twelve to twenty flowers, large and deep, equal to many seen on the exhibition table.

The varieties best suited for this work are all the Teck family. Miss Maréchaux (a good white incurved, much grown in trade establishments for January flowers), Sarnia, Ethel, Yellow Ethel or Mrs. H. J. Jones, Mr. H. Cannell, L. Canning, Thunberg, Putney George, and Princess Blanche. The last named is, I believe, the latest variety in cultivation, very dwarf and compact in growth, and altogether a most excellent useful white Japanese.

Just a few words in conclusion re planting out of midseason varieties in May specially for lifting to provide cut flowers in November. I am quite sure it is a mode of culture deserving to be more generally adopted; especially does this plan answer well where the plants can be housed without a necessity for potting them. Mr. Angus, who is now proprietor of the Carlton Hotel, one of the best commercial houses in Leicester, but formerly head gardener at Warter Priory, recently told me that his principal supply of cut flowers was produced by plants so grown, and flowered in Cucumber and Melon houses, his plan being that when housing time came he would put two or three men to the work, one being inside with a spade making holes, and planting them, as others lifted them and carried them in, with all the ball which would lift with them. He said those plants flagged but little and flowered amazingly, giving little trouble from first to last. In potting them the ball has necessarily to be reduced by more than one-half, of course with the loss of the best feeding roots. The plant has then to practically start afresh, and before it can sufficiently recover to do so it inevitably loses a considerable portion of foliage. Although Chrysanthemums so quickly suffer if neglected in watering when grown in pots, it is surprising the amount of drying they will endure when planted out. I never water mine except at the last, when they are cut round preparatory to lifting; and although I have seen them flagging and drooping almost to the ground during hot drying days, they would recover their stiffness at night, and be apparently no worse for the drying they had received. Almost any varieties answer to this rough and ready treatment, but the best to grow thus are those which are most useful when cut, such as the Rundle family, Mdle. Lacroix and its sports, Mons. Astorg, also an English raised seedling named Old Gold, raised by



Mr. Cullingford three years since, which is little known at present, being of no use for exhibition, but is one of the very best in cultivation for supplying quantities of good flowers for cutting, and is a favourite colour with ladies, being just the colour its name indicates. I am also of opinion that the favourite new variety of last year, W. W. Coles, will prove an excellent one for this work. It is very free in producing good useful lateral flowers of good shape and build for decorative work and of a charming colour, lighter and brighter than are the big exhibition flowers of it, a bright terra-cotta red, a colour much sought after at the end of November.

[In recognition of the services of Mr. Woodeock as a cultivator, writer, and good gardener, we have pleasure in publishing his portrait, and wish him much success in his future business career.]

## ROYAL HORTICULTURAL SOCIETY.

JULY 21ST.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair), Mr. Morris, Mr. Blandford, Rev. W. Wilks, Rev. G. Henslow, Hon. Sec.

*Conifers Attacked by Chermes*.—With reference to this subject, brought before the Committee at the last meeting, Mr. Blandford remarked on the difficulty of destroying the insects with the paraffin spray, inasmuch as it was practically useless for large trees, and could be only applied to small ones; moreover, it will not remove them unless it be applied with force, and in that case water alone would answer the purpose. The only effectual method was to nip off the galls made by the chermes. From some observations of Dr. Masters it would seem that the gall-making species does not appear to attack the Larch, but only the Spruce Fir, though other species of chermes attack various members of the Coniferae.

*Microscopical Structure of Hybrids*.—Mr. McFarlane sent photographs illustrating the microscopical structures of *Lapageria*, *Philasia*, and of a hybrid between them, *Philageria*. In all cases the anatomical details of the hybrid were intermediate in character between those of the two parents.

*Primula sikkimensis Attacked by Slugs*.—Rev. C. Wolley Dod sent plants from which the cortical chlorophyllaceous tissue had been gnawed off by the common white slug. As a proof of their partiality he observed that stalks of *P. rosea* and of *Dodecatheon* growing side by side with the above were not touched. If the *P. sikkimensis* is barked soon after flowering it withers and develops no good seed.

*Loranthus (?) from Bechuanaland*.—Mr. Johnston forwarded a specimen of what appeared to be a species of *Loranthus*, on which he observes:—"It had a small berry not quite round, of a colour similar to red coral on a short stalk." It was referred to Kew for identification.

*Apple and Pear Twigs Barked*.—Mr. G. Lee of Clevedon sent some more specimens, but no new light could be thrown upon the injury. A method adopted by Mr. Bunyard, who is familiar with the fact, may be mentioned. In cases where nocturnal beetles or other insects attack young trees, he lays a sheet under the tree, and by violently shaking it, the insects fall upon it, are easily seen, and then dispatched.

*Strawberries Attacked by Beetles (?)*.—Messrs. Wood & Ingram of Huntingdon forwarded specimens of beetles of two species, *Harpalus ruficornis* and *Terrostichus madidus*, supposed to have been the depredators. They are nocturnal, but very exceptionally vegetable feeders, hence some suspicion was felt as to their being the right insects; and the question was raised as to whether they had been actually observed eating the seeds of the Strawberries as described. If the above beetles were the real enemies, hand-picking at night is the only method of destroying them, as they are nocturnal in their habits.

*Plants, &c., Exhibited*.—Dr. Masters showed a specimen of *Weigela sessilifolia*, with small scentless and yellowish flowers, a dimerous *Cypripedium*, a pelorian *Linaria vulgaris*, and a proliferous *Carnation*. Mr. Henslow exhibited a white *Iris* with two flowers, both being dimerous instead of trimerous. Members of the Scientific Committee may be reminded that the next meeting on August 11th will be the last of the session. The first meeting of the winter session will be held at Chiswick on October 6th.

## TUBEROUS BEGONIAS.

TUBEROUS Begonias are destined to occupy a very prominent position in all gardens where flowers are appreciated. Easy of culture, requiring only a warm greenhouse temperature as a maximum, and growing and flowering freely out of doors in beds and borders, vigorous in growth, bold and beautiful in foliage, producing large and gorgeously coloured flowers with the greatest freedom, the Tuberous Begonia will rapidly become one of the most popular flowers. Less than twenty years ago any further improvement upon such kinds as *Boliviensis*, *Chelsoni*, *Peareei*, and *Veitchi* was pronounced to be impossible. What was said to be impossible has been achieved by Messrs. John Laing & Sons of Forest Hill by careful selection, judicious crossing, and first-class cultivation, extending over a period of seventeen years, but unremitting attention, persistency, and study has obtained its reward. These plants appear to successfully adapt themselves to all purposes but one—viz., cutting purposes. As basket plants they are very useful; when massed in the conservatory or greenhouse they make a display of colour that it would be difficult to equal from June to October; it is valuable as a "bedding out" plant, two thousand of one colour having been sent for that

purpose this season to one private garden, and it is equally at home in the herbaceous border. As in purchasing Orchids and most other plants that vary considerably in the quality of flower, it is a good plan to inspect a collection of good repute and select the best varieties. Of course the first cost is greater, but as a rule it is the most satisfactory in the end.

The plants under glass at Forest Hill have been exceedingly fine this season, and where there are so many that are excellent it is difficult to particularise. The principal show house is a magnificent sight, a span-roofed structure about 100 feet by 24 feet, with central and side stages, containing hundreds of specimens and half-specimens, as well as smaller and more saleable plants. The specimens are 2 feet to 2½ feet in height and diameter, with strong stems and immense leaves, and correspondingly large and numerous brightly coloured flowers. Many of the latter are 6 inches in diameter, very regular in form, and of good substance. Some flowers have been as much as 7 inches, but this size is exceptional. Given flowers 4 to 6 inches across, circular or nearly circular in form, bright and decided in colour or shade of colour, and of thick velvety substance, there is little more to be desired in the flowers of the Tuberous Begonia, except that it shall be attached more firmly to the flower stalk.

Amongst the double varieties some of the best were *Alice Manning*, yellow, with long and pendulous panicles of bloom, and an excellent basket plant; *Mrs. French*, yellow or pale primrose, with full well shaped flowers, and petals well imbricated; *Stanstead Yellow*, a lovely soft clear yellow and of exquisite form, one of the best; *Duchess of Teck*, yellow, a large flower of good form, one of the best. Of Pinks which are clear in tint and are great acquisitions the best are *Sir William Wallace*, pale salmon pink; *Viscount Wolseley*, rich rose pink, superb; and *Elfride*, bright rose. In whites one of the best and perhaps the most useful in cultivation is *Alba floribunda*. This should be in every collection. *Vesta*, a superb and snowy-white flower, and *Lucy Closon*, beautiful ivory white, with just a tinge of yellow in the centre of the flower. The best of the crimson section are *Hollyhock*, a beautiful light crimson, large and full; and *Notaire Dubled*, a deep velvety scarlet.

The single varieties contain amongst them all shades, from the deepest crimson to the purest white, and at present this section is decidedly in advance of the doubles in point of variety and richness of tints. A bicolor or "fancy" race has also arisen amongst them, and at no distant date these will form a distinct section. We have in *Darkest Africa* the deepest crimson yet known amongst Tuberous Begonias. *Gigantea* is a rich rose pink, clear in colour, large, and of almost perfect form. *Her Majesty* is a soft blush pink, exquisite in form, and one of the largest in size. *Leviathan* is what its name implies, and of a rich rose colour, good in form; *Lady Whitehead*, a bright rose pink, large, and of excellent form; *Lady Brooke*, a fine flower, rich purplish rose in colour; *Miss E. F. Cooper*, a beautiful blush; *Miss Warren*, good dark rose, large size; *Torey Laing* is a very fine orange yellow; *Primrose Queen*, good primrose yellow; *Golden Gem*, a rich golden yellow; *Duchess of Edinburgh*, a deep yellow, slightly shaded with orange, a splendid variety; *Golden Queen*, one of the best of the yellows; and *Mrs. R. Ballantine*, a very bright yellow, and of excellent form and good substance. Of scarlets the best are *J. W. Wilkinson*, a very bright scarlet, and of good form; *Earl of Rosslyn*, brilliant orange-scarlet, and of good form; *Guardian*, bright vermilion, erect and circular flower; *Lady Cloncurry*, scarlet flushed with Indian red, a fine flower and of good form; and *Prince Albert Victor*, orange scarlet, of first rate form. Amongst crimsons *Comet* is one of the best, dark crimson in colour; *Duke of Edinburgh*, a splendid variety, rich crimson maroon; and *Mrs. Peteh* and *Mrs. Joseph Chamberlain* are excellent types of the "fancy" section alluded to. The best whites are *White Perfection*, *Mrs. Weekes*, *Princess Beatrice*, and *Princess Louise*.

The stock of Begonias is very large; a considerable area of land is planted with double and single varieties in a series of beds. There are over 120,000 so planted, and even these must be seen to realise what that number actually is. There are several large houses in addition filled with flowering plants, and numbers of pits and frames are also occupied. Hundreds of shallow boxes holding thousands of seedling plants were standing at the sides of the paths, and a large staff of men are solely occupied in attending to the requirements of these Begonias.

The culture of the Tuberous Begonia is very simple. At the beginning of 1890 I obtained seed of the single variety from a reliable source. This seed was sown on 25th February in a pan well crocked, and the crocks covered with moss and an inch and half of light soil, consisting of loam, leaf mould and sand in equal proportions passed through a fine sieve. The soil was levelled, the seed carefully sown, gently watered so as not to disturb the seed, and a piece of newspaper placed over it in contact with the soil and kept constantly damp, the pan being placed in a cool stove. The seedlings were pricked off—somewhat late owing to pressure of other work—on May 9th, and placed with *Primulas*, *Gloxinias*, and *Cyclamens* into a heated pit, and within a foot of the glass. These were potted into large 60's on June 20th in soil a little richer, and replaced in the frame. They were repotted into 48's on July 15th, the strongest being put into 32's and treated as before, and by the middle of August all but a few weak plants had been potted into 32's, and from that time until the end of October we had one side of a house a perfect mass of colour, and they were admired by all who saw them. As the leaves turn yellow or fall off and the stems separate from the tuber water should be more sparingly applied, and not entirely withheld until the tubers are



dormant so far as growth is concerned, when they may be either kept in their pots or shaken out and placed in cocoa-nut fibre, Buckwheat chaff, or cork dust, and stored in a cool place where frost cannot reach them until the following season, when they should be repotted before they shrink or start into growth; but in the case of old tubers much artificial heat is quite unnecessary; indeed, a buoyant genial temperature of 60° suits them admirably, and a free circulation of air encourages a robust growth.—J.



**EVENTS OF THE WEEK.**—The present week will be a rather busy one as regards horticultural exhibitions, for the following are announced. To-day, Thursday, St. Ives (Hunts); Saturday, August 1st, Ripley, near Derby (Roses); Southampton and Liverpool, August 1st and 3rd, both Shows of considerable importance, with substantial prize lists. Monday, August 3rd, and Tuesday, August 4th, Northampton, in Delapre Park, with a prize list amounting to £250. On Monday also the Beddington, Carshalton, and Walington Show will be held in Beddington Park, Surrey; and at 4 P.M. the British Fruit Growers' Conference, announced on another page, will take place. The Leicester Horticultural Show will be held as usual in the Abbey Park on August 4th. Messrs. Protheroe & Morris announce a sale of new and rare Orchids at their Cheapside rooms on Friday, July 31st.

— **THE WEATHER.**—During the past week much rain has fallen, accompanied in some districts by serious thunderstorms. A daily paper says that at Lady Green, near High Wycombe, Bucks, on Monday last, a storm occurred during the Flower Show and cricket match, when, in consequence of a sudden storm, the spectators and cricketers took refuge in tents and under trees. The lightning struck a tree under which five young men had gone for shelter, killing three instantaneously. The Rev. Mr. Wallace of Bromley, Kent, was delivering a lecture on "Bee-keeping" in a tent near a tree, some men being gathered under the tree watching the operation. Suddenly a flash of lightning was seen, and it was found that three of the men were dead, and others, including the Rev. Mr. Wallace, badly injured.

— **ELM BRANCHES FALLING.**—A peculiarly dangerous and well known character of the Elm is that of large branches suddenly falling in the summer without any apparent reason. At Castle Green, Hereford, an accident of this occurred last week, resulting in the death of two children.

— **WOLVERHAMPTON HORTICULTURAL SHOW.**—Permit me to call your attention to an error in your report of the Show held on July 14th, 15th, and 16th. In the Rose class for amateurs and gentlemen's gardeners the Rev. J. H. Pemberton was first for thirty-six and twenty-four; the Rev. A. Foster-Melliar was third for thirty-six Roses. —W. A. GREEN, JUN., *Hon. Sec.*

— **THE CARDIFF HORTICULTURAL SHOW.**—We are desirous to remind our readers that the entries for the above Show close on August 5th. About £300 are offered in prizes, and it is expected that the Show will be highly satisfactory. Schedules can be had from the Secretaries, 54, Woodville Road, Chester.

— **TROPÆOLUM MRS. CLIBRAN.**—Messrs. W. Clibran & Sons send us from Altrincham flowers of this new dwarf bedding Tropæolum, which they propose distributing next spring. They are rich orange yellow in colour without stripe or speck, and as the plants are said to grow only from 4 to 6 inches high, and to flower with great freedom, the variety must be regarded as an acquisition. If it were not both distinct and good we may be sure it would not be honoured with the name it bears.

— **HOP PROSPECTS IN SURREY.**—Encouraging reports are to hand respecting the prospects in the Hop gardens in Surrey and Hampshire. In the opinion of the oldest Hop planters they have never in all their experience seen the bine so free from vermin as they are at the present time. In most of the gardens there is a show for a good average crop. The only thing which planters have to all appearance to fear is mould, judging from the free application of the process of sulphuring. In places mould is developing rather fast. Old Hops are almost cleared, and the outlook this season for growers is a very hopeful one.

— WE are informed that MR. JAMES COLE, recently with Messrs. Standish & Co., Ascot, and previously with Messrs. Ireland & Thomson, Edinburgh, has been now engaged as manager to Messrs. John Laing and Sons, Forest Hill Nurseries, London, S.E.

— **GLADIOLUS RAMOSUS** is the first of an extensive family to flower in the open border, where its magenta blossoms are effective in strong clumps about 2 feet or so from the front of the border when associated with other plants. The foliage is dark green, which sets off the brightly coloured flowers, that expand during the month of June. It increases rapidly, and succeeds best when left undisturbed in the border.

— **THE Chinese Pink**—**DIANTHUS CHINENSIS HYBRIDUS**—is variable in colour, and the deep rose-tinted form is the best. This can be kept true by propagation from cuttings or by layers, choosing the stout growths. Cuttings inserted in sandy soil in a cold frame at the end of August make good plants by the following spring. In clumps on the rockery this Dianthus makes a good show, and deserves a place in every garden.—S.

— **DORONICUM AUSTRIACUM.**—The earliest flowering Leopard's Bane has been very showy in the herbaceous borders this season, and it is in some respects one of our best hardy plants. It is most useful for cutting from, as the old gold colour of the flowers is generally admired. When once a plant is established no difficulty need be experienced in increasing the stock, as every piece of growth with a root attached will grow if taken off and planted in showery weather.—S. P.

— **CANNELL'S ENGLISH WONDER PEA.**—For some years I have depended upon American Wonder for supplying us with the first Green Peas because of its good quality, though some other varieties are a few days earlier, and earliness is the first consideration with some people. This year I have given the English Wonder Pea a trial alongside the old favourite, American Wonder. The result is I find the new variety superior to the old one in every respect. The growth is similar, but the pods are larger and the peas superior in quality. The two sorts were sown February 13th and gathered June 23rd. They suffered much by the frost of Whit-Sunday, or would have been ready a week sooner.—E. MOLYNEUX.

— **GERBERA JAMESONI.**—It may be of interest if I supplement your remarks upon this plant, given with the illustration in the *Journal of Horticulture*, July 23rd, by saying that far the finest result is obtained by planting it out at the foot of a south wall, where it can be kept dry during winter by a cover of glass. Here I have two fine plants of luxuriant and handsome growth growing among the Opuntias, the treatment of which it receives. They were not injured in the slightest degree during last winter. The Opuntias, too, were quite unharmed, though the thermometer went down nearly to zero, and they are now making magnificent growth, and form a striking feature. All the protection these plants receive, in addition to that of the south wall, is glass overhead during winter to keep off wet.—R. IRWIN LYNCH, *Botanic Gardens, Cambridge.*

— **STRAWBERRIES.**—The long-continued cold spring and the severe frost of Whit-Sunday rendered the Strawberry crop exceptionally late here this year. Last year we gathered fine fruits of Noble on June 17th, while we did not gather any this year before June 29th. Noble was not our earliest variety either this season. Vicomtesse Héricart de Thury ripened its fruit first. I cannot speak in too high terms of this Strawberry either in point of crop or flavour, both being of the best, and for growing in strong soil it has no superior. The plants have carried a full crop of fruit, having recovered wonderfully since the frost, while the plants never looked better.—E. MOLYNEUX.

— **SUCCESSFUL VIOLET CULTURE.**—At Cricket St. Thomas, near Chard, Mr. Lyon grows Marie Louise and Comte de Brazza Violets remarkably well, a good start having been made this season. A range of pits with high backs, so as to give a rather sharp angle, is wholly devoted to Violets, being no sooner cleared of old plants than they are filled with young ones. A good loamy soil is prepared to replace that already exhausted, and in this newly rooted runners or cuttings are disposed about 10 inches apart each way. After they are established in their fresh quarters the lights are taken off and not replaced over the plants till frosts are imminent. During the summer they are kept well supplied with water, syringed occasionally, and all runners are pinched off. Thus treated extra strong plants are obtained, and which, not being checked by transplanting, flower grandly and continuously.—I.



— MRS. SINKINS PINK.—One more year proves the superiority of this Pink to other white varieties for cutting from. The flowers are so much more solid than any other variety; they also are borne on extra stout stalks, which enables them to be seen to the greatest advantage, those of the common type often dragging in the soil owing to the weakness of their stems. There are three easy ways of raising a stock of plants. Layering may be done at any time after the flowers have faded. The old roots may be broken up, every piece with a root being dibbled into sandy soil on a border early in September, or stout cuttings may be inserted in a cold frame at the end of August. Whichever mode is adopted the plants when ready should be set out on a border for a year, cutting off the first flowers directly they show, the object being to enable the plants to make better growth for flowering the following year in pots on the open border. Planted in a mass as an edging by the side of a path this Pink shows to great advantage. Its perfume is exceedingly powerful at times according to the state of the weather.—S.

— FRUIT CROPS IN YORKSHIRE.—We had a splendid show of blossom on all fruit trees, but the disastrous frost of May 17th made terrible havoc with Plums, Pears, and Currants. Gooseberries were well into leaf, and gave protection. Black Currants are a failure. Strawberries were very much damaged, but are a fair crop, rather small. Apricots are very scarce on the walls outside, but the open Apricot shed contains a fine crop of Apricots and Plums. There are crops of some kinds of Apples and Pears on standards, the Hesse Pears are loaded with fruit in this district. Early Potatoes are rather small from the effects of the frost in May; late ones are looking well, better than I have seen them for several years. Peas, Beans, and other vegetables are very luxuriant and good.—BAILEY WADDS, *Birdsall, York*.

— THE PRINCE OF WALES' VISIT TO BIRMINGHAM.—The very extensive floral display at the Council House was in the hands of Messrs. Hewitt & Co., Solihull Nurseries, and was on a very elaborate scale. The main entrance leading to the grand staircase was flanked with massive Palms and other plants, and the windows and grand staircase were superbly decorated. The windows and recesses of the banqueting room were draped with pale salmon tinted curtains, and only white flowering plants and foliage were used in this room. The luncheon table was decorated with blue Cornflower and Grasses, and sprays of Smilax on the cloth. The drawing-room and boudoir for the Princess of Wales and the Prince's rooms were exquisitely ornamented, as also were the corridors and other rooms. Messrs. Hewitt & Co. also supplied the floral decorations for the new Law Courts opened by Their Royal Highnesses.

— CROWN IMPERIALS are generally planted and left to take their chance whether the soil is suitable or not for giving the finest results. Heavy retentive soil, which must of necessity be cold during the winter, is not the best for Fritillarias; they prefer that of a sandy nature. In the former case remove the soil to a depth of 18 inches, filling the spaces with peat, leaf mould, and old potting refuse. When the foliage and flower stems have died is a good time to replant bulbs which do not succeed under their present method of treatment. By removing the old and adding new soil, planting the bulbs on a layer of sand an inch thick, 6 inches below the surface, mulching during the winter with partly decayed leaves, success may be assured. A short time ago I saw a clump 10 feet square of Fritillaria imperialis growing in a cottage garden. The effect of such a mass in bloom can readily be imagined, and in this way Crown Imperials show to the greatest advantage.—P. B. W.

— STRAWBERRY TROLLOPE'S VICTORIA.—In the list of Strawberries recently offered for sale by one of our leading nurserymen this old variety is described as being of fine flavour and in other respects highly satisfactory, than which description nothing could well be more misleading. A more soft flavourless fruit could not well be named, and this I maintain after having tested it in at least eight different counties. I would not recommend it under any circumstances, as it does not possess one single good quality, and the sooner it is blotted out of all lists the better. With so many superior forms to select from why cling to such worthless old favourites? Not that all the varieties of recent introduction are so much superior to the older and well tried favourites; and in order to prove that I am not prejudiced against the latter it is only necessary to state that another out of the same batch of seedlings as gave Mr. Trollope his Victoria is very extensively grown in the gardens under my charge, this being none other than the good old Alice Maud, with or without the prefix of Princess, just as the "fancy takes us."—W. I.

— BLACK CURRANT ENEMIES.—Our entomologist writes:—"The larvæ or grubs taken from the Black Currant, and sent by your correspondent "W. K.," did not develop the fly in sufficient numbers to enable its name to be determined. Doubtless this insect is identical with the one referred to by Mr. Thomson, evidently a two-winged fly of the Phora group. The caterpillar of *Incurvaria eapitella*, which bores into the shoots of the Black Currant, commences its attacks usually in the bud, where it may be found, but not till about this time, the moth depositing eggs in June. The caterpillar of a Tortrix, which visits Roses and various fruit trees, probably occurs sometimes in this shrub. There have been sensational paragraphs in some papers about a beetle that damages Currants at night, hiding during the day in the soil. *Otiorynchus tenebrius* (red-legged weevil) lurks at the roots of Currants, sometimes doing a certain amount of mischief. Gardeners in Kent who have a short crop of Black Currants do not attribute this to mite, caterpillar, or any insect in particular, but regard it as the result of an extremely sharp frost one April night." [No doubt the Kentish gardeners are right, but in some other districts not only crops of Currants, but hundreds of Currant bushes, have been ruined by the bud mite apart from other enemies.]

— BUDDLEA GLOBOSA.—Those requiring a distinct and beautiful flowering shrub for sheltered positions would do well to give this a trial. The plant is hardy enough to withstand ordinary English winters; and even after the last severe winter here, in Warwickshire, a plant growing against the walls of Warwick Castle escaped uninjured, though others in the open borders were killed after having withstood the frost of several previous years. If planted against south walls in the southern parts of England they will doubtless succeed well if the precaution is taken to plant in rather poor soil, and to provide good drainage. When trained to a wall the shoots should be allowed to ramble freely to secure plenty of their beautiful flowers, which are like little balls of a bright orange colour, and emit a peculiar yet pleasant perfume.

— ANOTHER distinct and beautiful shrub is *JASMINUM FLORIDUM*, and I feel sure that if it were more generally known many cultivators would grow a few plants and prize them highly. The flowers are of a very rich yellow colour, and are deliciously fragrant, and both the growth and leaves are much more vigorous than is the case with the majority of Jasminums. It succeeds well either when grown as a bush plant or trained against a wall.

— THE thoroughly hardy and showy *LILIUM ELEGANS*, which is synonymous with *L. aurantiacum* and *L. Thunbergianum*, should be grown by all who require plenty of flowers for cutting purposes. As it is so well adapted, too, for many kinds of decorative work, single blooms placed in specimen glasses, with a little Fern or a few trailing shoots of Sweet Peas, have a charming effect on a dinner table. When the whole stem is cut with several fully expanded flowers they are excellent for arranging in large vases, their attractive looking scarlet flowers give warmth and brightness when associated with a few white flowers and plenty of greenery. Although not in the least particular in regard to soil, like most other Lilliums, it repays well for liberal treatment, and is thoroughly suited to the wants of all classes of cultivators. A few clumps in the gardens of cottagers and amateurs are always telling, and large masses arranged in the front of shrubberies or disposed judiciously in mixed borders give a bright glow of colour to the grounds around many a stately English castle.

— THE recent rains have had a most beneficial effect on all kinds of BEDDING PLANTS, which are now growing rapidly, and with continued favourable weather will soon present an imposing appearance. Those who have to deal with light soils which are somewhat poor will find their plants derive great benefit from the practice of placing a layer of leaf soil over the surface of the beds after planting is completed, as it not only prevents the soil drying rapidly, but is also a great root-producing medium, as the majority of plants have a special liking for good leaf soil, and during wet weather much nutritious plant food is washed downwards to enrich the natural soil and sustain the plants during periods of protracted drought.—D.

— VINES AT AMPHILL HOUSE.—The proprietor of the above house—G. Wingfield, Esq.—has of late years devoted much of his attention to horticulture, and has been rewarded with much success. The plants grown here under the direction of Mr. W. Empson, the head gardener, proclaim by their vigorous, healthy appearance the care bestowed upon them. A vinery some 60 feet in length is worthy of



mention. This was planted with young Vines twelve months ago last March, and the amount of wood made and the quantity of fruit which the Vines are now bearing cannot fail to attract the attention of any observer. Several Vines of Madresfield Court are bearing enormous bunches, which when fully developed will not fall far short of 7 lbs. weight, the size and shape of the berries being admirable. Six plants of Black Hamburgh are bearing well, and many bunches have been removed. Three plants of Gros Colman are very fine, and are bearing well-shouldered bunches. Alicante is also well represented, and is bearing remarkable bunches. Lady Downe's are notable for the fine growth which the Vines have made, also for the bunches which are just swelling. Of white Grapes Mrs. Pearson is one of the best; the Vines are bearing large well-shaped berries and fine bunches. Fine Muscat of Alexandria are bearing well, and are just on the point of turning colour. Foster's Seedling, of which there are half a dozen fine Vines, is one of the best grown here, having large bunches with good berries. Of other plants may be noted a small but increasing collection of Orchids, amongst which are varieties of Cattleyas, Odontoglossums, the beautiful Phajus Humbloti, and other equally good plants.—P. W.

### PRUNES IN THE SOUTH OF FRANCE.

A RECENT issue of the "Kew Bulletin" was an unusually interesting one, containing important chapters upon "The Cultural Industries at the Gambia," "The Cultivation of Perfumery Plants in the Colonies," "The Banana Disease in Fiji," "Fibre Productions in the Caicos," and upon the subject named at the head of this article. Much valuable information is now given in the "Bulletin," but we cannot help thinking it desirable that a few chapters should be occasionally included on the gardens at Kew. Concerning the useful work there performed, and the extensive collection of plants, the horticultural or botanical public hear but little, though much of an interesting character might be written respecting these subjects. The chapter upon the French Prunes is reproduced here as a subject of commercial importance.

The preparation of dried Prunes is a very considerable industry in several parts of Europe. In the valley of the Loire in France, especially about Bourgueil, a small town lying between Tours and Angers, the *Prunier de St. Julien* (*Prunus domestica*, L., var. *Juliana*, D.C.) is largely cultivated. This is one of the principal sources of supply of the ordinary grocers' Prunes.

According to Flückiger and Hanbury ("Pharmacographia," page 252), "The Prune in its fresh state is an ovoid drupe of a deep purple hue, not depressed at the insertion of the stalk, and with a scarcely visible suture, and no furrow. The pulp is greenish and rather austere unless the fruit is very ripe; it does not adhere to the stone. The stone is short (0.7 to 0.8 of an inch long, 0.5 to 0.6 broad), broadly rounded at the upper end.

The fruit is dried partly by solar and partly by fire heat—that is to say, it is exposed alternately to the heat of an oven and to the open air. Thus prepared it is about  $1\frac{1}{4}$  inch long, black, and shrivelled, but recovers its original size by digestion in warm water.

The production of a somewhat inferior kind of Prune is also an important industry in Germany. The following account is from Hanbury and Flückiger (pages 252, 253).

"When French Prunes are scarce, a very similar fruit, known in Germany as Zwetschen or Quetschen, is imported as a substitute. It is the produce of a tree which most botanists regard as a form of *Prunus domestica*, L., termed by De Candolle var. *Pruneauliana*. K. Koch, Dendrologie, part i. (1869), 94, however, is decidedly of opinion that it is a distinct species, and as such he has revived for it Borkhausen's name of *Prunus œconomica*. The tree is widely cultivated in Germany for the sake of its fruit, which is dried as an article of food, but is not grown in England.

"The dried fruit differs slightly from the ordinary Prune in being rather larger and more elongated, and having a thicker skin; also in the stone being flatter, narrower, pointed at either end, with the ventral suture much more strongly curved than the dorsal. The fruits seem rather prone to become covered with a saccharine efflorescence."

There is a third centre of the Prune industry in south-eastern Europe. This is of increasing importance.

The following account of it is taken from the General Review of the State of Trade in Servia during the year 1886, by Mr. Vansittart, Chargé d'Affaires at the time at Belgrade, (Consular and Diplomatic Reports on Trade and Finance, No. 176).

"The sum total of the value of the export of grain, fruit, and Prunes in 1886 is reckoned at £535,476; of this sum rather more than half represents the value of Prunes exported. In 1884 some 20,056,155 kilos, of a value of £274,441; and in 1885 about 23,228,777 kilos, of a value of £231,000 were despatched from Servia.

"It is reckoned that one-third is exported direct to Germany, via Regensburg, one-third direct to America, via Fiume, and one-third to Pesth, from which latter place Prunes are sent to the various European markets. The increase in the exportation of Prunes to North America via Fiume should be particularly noticed. Fiume is more advantageously situated than Trieste for this purpose; from the beginning of the season no less than 400 complete waggonloads were exported per sea, and chiefly to North America.

"The Prune harvest for 1886 yielded in Bosnia more than a third of the harvest of the previous year, and can be reckoned at about 170,000 centners; whereas Servia yielded a good average harvest of about 357,832 centners. Of this sum total more than three-fourths were exported. The quality of the new Servian ware was of a very satisfactory nature, the product being healthy, well dried, considerable in quantity, and of a durable nature. In 1885 a direct trade with Great Britain in Prunes was established, and it promises to attain considerable proportions in the future. Prunes are consumed in enormous quantities in Germany, and it is to that country that the great bulk is exported. In England Prunes are considered more an article of luxury, and the French "Prunes impériales," as sold in the English market, are the favourites, although, perhaps, the Servian Prunes, generally smaller than the French Plum, possess, if anything at all, a finer flavour, and can certainly be sold at a very much cheaper rate than at present demanded for the French production. The real reason is, probably, that as Prunes are more generally consumed among the richer classes in England, the superior packing, and what may be termed the general making-up of the French "Prunes impériales," render them more attractive to the eye, and, in spite of their higher prices, sell better.

"I am told that the export of Prunes in general might be benefited by exporters using for this purpose specially made barrels to contain 100 kilos, or 220 lb. casks."

The kind of Prunes more particularly distinguished as "French Plums" are a special industry of Southern France. Their mode of preparation and the extreme care bestowed upon it seem to be little known. These were very carefully studied on the spot by Mr. M. W. Colchester-Wemyss of Westbury Court, Westbury-on-Severn. His object was to ascertain if there was any possibility of starting a similar industry in England. He has very kindly permitted the result of his inquiries to be published in the "Kew Bulletin."\* Though there seems to be little prospect of success in the preparation of Prunes or French Plums in this country, there seems no reason why it should not be attempted in colonies, the climate of which is not dissimilar to that of Southern France. Fruit growing would be doubtless stimulated in the colonies in proportion to the existence of practicable modes of preserving the crops for commercial purposes.

About sixty miles above Bordeaux there falls into the Garonne a fine river which, taking its rise among the mountains of Cevennes, follows a course of some 150 miles until its junction with the Garonne. This river is called the Lot, and the two rivers together confer the name of the Department known as Lot and Garonne. For several miles along the lower reaches of the Lot, and in the country immediately adjacent to the spot where it enters the Garonne, is produced the fruit known, when it has been specially prepared, as "French Plums." For over one hundred years the industry has been fixed in this locality, and still with the sole exception of a valley in Servia there is no other place where the same trees are cultivated. The tree is called *Prunier d'ente*; "enter" is an old French word meaning to graft, and it is simply so called because this particular species was formerly the only Plum in this district that ever was grafted. Now there are, practically, no Plums other than the *Prunes d'ente* grown in the neighbourhood. Higher up the Garonne, round the old town of Agen and in other parts of Southern France, another Plum, the *Prunier commun*, is largely grown, and its fruit treated similarly to that of the *Prunier d'ente*, but the produce is very inferior and only suitable for stewing; but I believe that nowhere, except in the Servian valley, is the true *Prune d'ente* at present grown; and though many experiments have been made with other varieties no others have yet been discovered that will yield the established qualities of the "French Plums." It is rather capricious in its growth, for its area of cultivation does not extend very far from the river bank. It appears to delight in a rich alluvial soil of a rather sandy nature, but which contains a sufficiency of clay to make it very retentive of moisture. The centre of the "French Plum" district may be said to be at Clairac, a quaint little old-fashioned town built on a steep hill side overlooking the Lot, almost more Spanish looking than French, its houses shaded from the fierce southern sun with wide outspreading eaves and flower-clad balconies. Here, during a recent stay, I was most hospitably entertained by M. Gajac, one of the most leading merchants connected with the Plum trade, with whom I had accidentally become acquainted.

In this and the neighbouring Communes the Metayer system is in full operation, and it appears to work well and harmoniously. The owner of the land engages the Metayer, and supplies all the implements and stock required for the holding; he also keeps the buildings in repair, including the house used by the Metayer. The latter finds the whole of the labour except such extra labour as is needed during harvest time. The Metayer during the year has entire control of the farm, and buys and sells, subject, if required, to the consent of the owner. He renders account of all produce from the holding consumed by himself and family, and at the end of the year the balance of profit is divided equally between the owner and the Metayer. During the last few years the Metayers have fared badly, for the phylloxera has devastated the vineyards, and sad it is to see acres and acres of land excellent for the growth of Grapes, but fit for little else, now deprived of those crops which formerly so well repaid the cost of cultivation. The holdings vary

\* A somewhat similar account is given by Mr. George W. Roosevelt, United States Consul at Bordeaux ("Reports from the Consuls of the United States," September, 1888, pages 441-443). There is an abstract in the "Journal of the Society of Arts," March, 1889, pages 323-329.



in extent from 10 acres to sometimes 50 and 60, and on every holding in the lowlands are to be seen rows of the *Prunier d'ente*. The rows are separated from each other by long strips of cultivated land where the mild fawn-coloured oxen lazily drag the most old-fashioned and primitive implements over the easily broken soil. The Plums are long shaped, the end to which the stalk is attached being very much the more pointed; colour red, deepening into a rich violet as the Plum ripens; the skin is extremely tough, without being very thick or hard; the flesh very firm, containing a large amount of saccharine; the specific gravity much less than that of several varieties of English Plums with which I made comparison.

(To be continued.)

### PEACH TREES IN POTS.

IN a heated orchard house I have at this time Peach trees in 15-inch pots of Nectarine (Rivers) and Princess of Wales (Rivers), Sea Eagle (Rivers) bearing on trees from 6 to 8 feet high thirty to forty fruit, from 9 to 12 inches in circumference, and 9 to 12 ozs. in weight. The aliment given to the roots twice per week is fish manure (Jensen's), soot, and liquid manure; at other times the trees are contented with pure water. I should like to know what amount of nourishment may be apportioned to the leaves, as it is absurd to suppose that the spongioles can supply all that is required to develop and sustain the extraordinary weight of fruit, the soil in the pots being no more than a healthy man can take up in one hand. The fruit will be on the trees for a few days, and can be seen by those who care to verify my statement by a personal examination.—T. FRANCIS RIVERS, *Sawbridgeworth*.

### THE FLOWER TRADE IN PARIS.

[Notes of a Conference held at the hall of the "Association Française pour l'Avancement des Sciences, by M. H. L. de Vilmorin.]

A PARISIAN of the present time can remember that a few years ago flowers did not play so conspicuous a part in commercial horticulture as they do now. They undoubtedly have always had an important place in the home life of the individuals and the symbolical accompaniment of the great events of life, but never until recent years have they assumed such an important position. A large quantity of flowers is every day of the year brought together in Paris, to be re-forwarded to distant parts or distributed throughout the city.

Whence comes that graceful harvest, renewed every day of the year in spite of storms and frosts? By whom are these flowers produced, despatched, received, preserved and placed in all quarters of the City within the reach of the buyers? How many people live by that industry, and sometimes acquire a competence for themselves and their families? These are useful and interesting matters, and the French Association has selected an important subject.

The central flower market (Les Halles) is between the fish and the vegetable markets, under a broad and spacious passage, and there fully open to the winds the flowers land in Paris. The carts of the horticulturists and market gardeners bring them in the evening from the suburbs of the city. At the same time and during the whole night the heavy railway trucks convey in osier and reed baskets flowers from more distant sources. At eleven o'clock, in all seasons, begins the distribution of the places and the ranging of the packing on the footpath; the centre is left free for the latest arrivals and the buyers. At 3 A.M. in summer and 4 A.M. in winter the wholesale market begins, but there are certain festivals (St. Charles, St. Louis, &c.) which give exceptional briskness to the transactions, when the sales open at 11 P.M. and last the whole night.

The importance of the supplies of flowers varies considerably according to the season, the temperature, and accidental circumstances. Last winter the relaxation brought about by the epidemic influenza greatly affected the flower trade. On an average about 2000 baskets arrive every day at the central market. Of that number some 800 are brought by 200 to 300 horticulturists and market gardeners, these being more numerous in summer than in winter. Forty commission agents receive and sell daily from 1000 to 1200 baskets, which during winter mainly consist of supplies from the South of France. These commission agents, through whose hands pass a large part of the flowers which arrive here, perform a very useful office. They assort the flowers, which are usually sent in a hurry by the producers. The choicest, which often pay for the whole consignment alone, are delivered to the large florists or re-forwarded to the provinces or to foreign countries; the remainder is disposed of at a low rate to the sellers in the central market or to the street vendors, and this explains the fact, at first sight surprising, that southern flowers are often sold in the Parisian streets for less than the price they fetch at Nice or Cannes.

Just as a floral clock has been composed of flowers which open at the different hours of the day and night, one might establish the calendar of the flowers in Paris by noting the arrivals in the different seasons. I will give a sketch of this when speaking of the street vendors, who, running after cheap articles, or, in fewer words, hunting a bargain, hawk each kind at the time of its greatest abundance.

Let us return to the wholesale trade at the central market. Whether it is held in its usual "passage" or in the cellars (in bad weather) the

sale lasts in summer until 8 A.M., and in winter until 9 A.M. The usual buyers are the retailing florists, either those occupying stalls in the special markets or keeping stands at the stations established by authority in hundreds of parts of Paris, or the numerous individuals who are permitted by the Prefecture of Police to drive small carts with which they introduce fresh products of the season. There are also the florists who have shops, but who mostly receive their supplies direct from the producers; and lastly, the forwarding agents, who send to the provinces or to foreign countries large quantities of flowers. We can safely estimate that from 300 to 400 persons are daily engaged with the cut-flower trade at the central market alone.

The special flower markets or shows in Paris, eleven in number, are not counterparts of the central market. Although a good quantity of ready-made bouquets or of cut flowers are sold in the former, their main object is the sale of living plants in pots. Some of these markets are very old. That of the "Cité," near the Hôtel Dieu, which has occupied since 1809 the site called "Quai aux Fleurs," existed last century on the Quai de la Mégisserie. It was regularly constituted for the first time in 1799. The market of the Madeleine dates from 1834; that of the Château d'Eau, now the Place de la République, dates from 1836; that of the Place Saint-Sulpice from 1845; the seven others have been opened since 1870. An essentially Parisian picture is afforded by the assemblage of coverts or temporary booths, open on all sides or partially sheltered against the wind and rain, gaily decorated with pot plants wrapped in sheets of white paper. With some variation the scene is repeated every day of the week, and in various parts of the central quarters and suburb, according to the annexed table:—

Name of the markets.	Date at which they were opened.	Number of places.	Superfices of the places.	Rent for market day.	Days of the week when the markets are held.
Marché de la Cité ..	19 Frimaire of the year VII. of the Republic (autumn, 1799)	About	Meters.	Centimes.	
„ de la Madeleine ..	May 2, 1834	300	6 & 2	30 and 15 per meter	Wed. & Saturday. Tuesday & Friday.
„ de la Place de la République ....	April 14, 1836	182	6	15	
„ de la Place de la Saint Sulpice ..	May 1, 1845	139	5.61	70 per place	Mon. & Thursday.
„ du Boulevard Clichy .....	Nov. 1, 1873	73	6	10 per meter	„ „
„ de l'Avenue des Ternes .....	Aug. 1, 1874	84	6	10 „ „	„ „
„ de la Place Voltaire .....	Aug. 1, 1874	93	6	10 „ „	Wed. & Saturday.
„ de Passy .....	Aug. 1, 1874	97	6	10 „ „	Tues., Fri., & Sun.
„ des Batignolles ..	April 30, 1877	20	4	10 „ „	
„ de la Chapelle ..	April 2, 1879	50	4	10 „ „	Wed. & Saturday.
„ du Boulevard Raspail .....	April 4, 1888	40	5	10 „ „	Wed. & Sunday.
	June 30, 1890	40	4	10 „ „	

These markets are in all their beauty during the fine spring days, before Paris becomes empty, and the amateurs, then numerous and eager, are rather puzzled as to a selection between the bulbous plants, spring Roses, *Deutzia gracilis*, favourite ornament of the *mois de Marie*; the first Carnations, Chinese Primulas, and the Cinerarias; the innumerable Stocks, *Myosotis alpestris*, the Indian Azaleas; the *Spiræas*, *Gardenias*, *Pinks*, and a hundred other plants. At the same time armfuls of Lilac flowers, *Mignonette*, and *Narcissus poeticus* attract notice by their perfume and the small hampers (French, *bourriches*) of Pansies, double Daisies, Anemones, and *Ranunculus* are prepared for the city gardens and window cases.

In the height of the summer season Asters take the lead with Carnations of every shade; the *Gladiolus* embracing such a variation of colouring; the *Agapanthus*, *Gaura Lindheimeri*, similar to white butterflies; the dark brown leaved *Perilla nankinensis*, *Lilium speciosum*, with their white and red varieties; the golden Japanese Lilies, the Tuberoses, not less fragrant; *Plumbago capensis*, *Rhodanthes*, *Vincas*, the *Gypsophila* and *Stevia*, which combine so gracefully with other flowers and give such a lightness to bouquets. Then in the small hampers we find *Mimulus*, *Verbenas*, *Balsams*, *Ageratum*, *Lobelias*, and *Nemophilas*; all annual charming open ground flowers.

The autumn is devoted to the *Chrysanthemums*. Either grown in pots or offered in clumps or as cut b'ooms they come everywhere to the front, and nobody thinks of complaining, so beautiful and pleasingly varied are they. From the small flowered Pompons or Liliputians to the large Japanese they provide a grand display of varied forms. They adapt themselves to every use and present a great range of the freshest colours. They are dwarf or tall, slender or bushy, from 12 inches to 6 feet high. They may be grouped in mixed borders, in flower beds, or planted in masses or singly, and lend themselves to every combination with the great merit of lasting very long. No wonder the *Chrysanthemum* is the queen of the autumn. Some Asters may, however, still be seen, charming miniature plants; then some *Laurustinus*, Christmas Roses, soon followed by *Cyclamens*, which commences the series of the winter flowering greenhouse plants. Towards Christmas appear the foliage and winter berries, the bronzed *Mahonia*, the red-berried *Holly*, the spring *Ruscus aculeatus*, clusters of *Mistletoe*, sprays of Japanese *Euonymus*, and of *Schinus Molle* with their bunches of rosy seeds. The sharpest cold does not deter the vendors in the open air markets, for we may see some closing their shops with thick cloth, and by means of a stove maintain a sufficient temperature to preserve the flowers and plants from injury.—EUG. SCHÆTTEL, *Paris*.



## ALLAMANDA WILLIAMSI.

COMPARATIVELY few additions have been made to the list of cultivated Allamandas in recent years, and those we already have are so

employed judiciously they have a beautiful appearance. Judging by the plant of Allamanda Williamsi (fig. 14) shown at the last meeting of the Royal Horticultural Society, and for which a first-class certificate was awarded by the Floral Committee, it will be especially



FIG. 14.—ALLAMANDA WILLIAMSI.

handsome that it is difficult to see how they could be surpassed. As climbing plants for covering the roofs of stoves they are most valuable, and yield a wealth of golden blooms during a good portion of the year. Of late, too, the flowers have come into favour with many decorators for the base of dinner-table stands, and when

adapted for culture in pots, as the habit is compact and bushy, and though the flowers are not so large as some of the others in general cultivation, they are of excellent shape, and a very clear bright shade of yellow, and produced in great freedom. We have no information respecting the origin of the plant.





## THE QUEEN OF FLOWERS.

IN the pleasing and graceful leading article on page 15, July 9th, Mr. Arnott seems to imply that the Lily may possibly contest this title with the Rose, and he quotes Cowper very happily as allowing such rivalry. He goes even further. "If rosarians will forgive, Cowper seems to have had a partiality for the Lily." I, for one, cannot for a moment "forgive," especially at such a season, when Roses are the most regal of all. In November my allegiance wavers a little, and I admit there is something to be said for Chrysanthemums. Every visit to an Orchid house impresses me with respect for that all-the-year-round flower. But in July admit a rival to the Rose! Not for a moment!

When there is a lull in the rush of Rose show reporting perhaps there may be found room for my reference to English poets. I will not go back beyond them, which will, I think, clear the case in poetical judgments. I will quote Cowper against himself, and then subjoin a garland of other Rose poets' sayings.

"Flowers by that name promiscuously we call,  
But, one, the Rose, the regent of them all."—  
(COWPER.—"Retirement").

I will begin with that little known poet Daniel, 1562-1619.

"Fair is Lily, fair  
The Rose, of flowers the eye!  
Both wither in the air;  
Their beauteous colours die."

Hughes represents Flora as absolutely installing the Rose in this position.

"Ye flowers, at my command attendant here,  
Pay homage, and your sovereign Rose revere!  
No sorrow on your drooping leaves be seen;  
Let all be proud of such a queen,  
So fit the floral crown to wear,  
To glorify the day, and grace the youthful year."

Broome, again, pays his homage thus:—

"Queen of fragrance! lovely Rose!  
The beauties of thy leaves disclose!  
The winter's past, the tempests fly,  
Soft gales breathe gently through the sky:  
Then haste thy beauties to disclose,  
Queen of fragrance! lovely Rose!"

Cunningham says the same.

"Yes, every flower that blows  
I pass unheeded by,  
Till this enchanted Rose  
Has fixed my wandering eye."

Cunningham also imitates Anacreon—

"Thee, ever gentle Rose, we greet!  
We worship thee, delicious sweet!  
For, though by mighty gods caressed,  
You deign to make us mortal blest."  
"Go, Flora," (said the impatient queen  
Who shares great Jove's eternal reign),  
Go breathe on yonder garden thorn!  
Wake into bloom the emerging Rose,  
And let the fairest flower that blows,  
The fairest month adorn."—(WHITEHEAD).

Similar lines were quoted in the Journal (February 5th, 1891). I have not been able to ascertain their author.

"What garden grace can be compared to thine,  
So sweet, so silent, and with face so fine;  
So fair a presence, lips that open with morn,  
Proclaim thee queen. Thy beauty hides the thorn!"

Two of the poets, it is true, waver in their allegiance, but then under very excusable circumstances.

"Sweet as the flowers that deck the field,  
And sweet the smell the blossoms yield;  
Sweet is the summer gale that blows,  
And sweet—though sweeter you! the Rose!"—(E. MOORE).  
"See, see, how the Rose there adorns that gay bush;  
And proud of its colours would vie with her blush;  
Vain boaster! thy beauties shall quickly decay:  
She blushes—and see how it withers away."—(DODSLEY).

Dr. Watts in his moral lessons rather reverses this statement. I conclude with his homely and excellent moral.

"The Rose has one powerful virtue to boast,  
Above all the flowers of the field;  
When its leaves are all gone, and fine flowers are lost,  
Still how sweet a perfume it will yield!"

Upon which he makes the young lady remark—

"Then I'll not be proud of my youth and my beauty,  
Since both of them wither and fade;  
But will gain a good name by well doing my duty,  
That shall scent like the Rose when I'm dead."

—A. C.

## ROSES IN AMERICA.

ON a gentle slope stretching away to the southward just beyond Mt. Hope reservoir and Highland Park, lies the greatest plantation of Roses in America. Many residents of Rochester know of this delightful spot, which has been visited by hundreds from a distance, but there are many who do not know of the treat within their reach.

Everyone is aware that one of the chief industries of Rochester, and the one which has caused it to be known the world over as the Flower City, is its culture of plants and trees. At the head of the list of horticulturists and florists is the long-established firm of Ellwanger and Barry. Their extensive grounds in the southern part of the city, laid out as they are in the most artistic manner and cared for in accordance with most approved methods, form a park, the beauty and attractiveness of which can seldom, if ever, be equalled by a public park.

Much might be said of each of the departments into which this extensive business is divided, but undoubtedly the greatest interest at this season will be taken in the display of growing Roses for which Messrs. Ellwanger & Barry have attained so enviable a reputation. For a number of years this firm has made a speciality of the Rose, and they have gathered from all quarters of the globe varieties which are best adapted for cultivation. As one approaches the field of eight acres from the top of the slope, there extends before him a grand sight. In this field are over 80,000 plants, embracing 150 varieties, while in another field near by are 20,000 plants. Mr. Barry said the varieties could be distinguished without difficulty when they are not in blossom by their foliage and peculiarities of growth.

"We do not grow the plants for the blossoms," said Mr. Barry in reply to the reporter's remark that it seemed a pity to see so many blossoms apparently going to waste. "We grow the plants to sell at wholesale and retail. We supply florists in large and small quantities, and sell a great many to persons who wish to decorate their grounds either extensively or in a simple manner. We have here the choicest old standard varieties as well as all the more recent introductions, and the newest Roses of 1891. Everyone loves the Rose, and most people, we think, will declare that it is the finest of all flowers."

Among the firm's recent additions are the Japanese Roses, remarkable for their robust, vigorous growth, great hardiness, and remarkable blooming qualities. These varieties are not only ornamental by reason of the beautiful flowers which they produce, but also on account of their handsome foliage and the showy fruit with which the plants are covered in autumn. The Japanese Rose will prove valuable, especially for regions where Rose culture has been unsuccessful heretofore, owing to the severity of the climate. Madame George Bruant, of the last type, is a striking representative, producing large white flowers, highly fragrant, and in every way charming.—(*Post Express*.)

## CHRISTLETON ROSE SHOW, JULY 21ST.

It would be difficult to find among the country Rose Shows a prettier or a better one than that which has been held now for a good many years in the park-like rectory field at Christleton, near Chester. The Show was held on the date named, and was unanimously pronounced to be better than any of its predecessors. A well-known rosarian, now, alas! no longer an exhibitor, on being asked his opinion, said at once, "You cannot possibly speak too highly of it." Tibshelf probably drew off the nurserymen, for there were only two exhibitors in their class. The open classes for amateurs were well filled, and with such adversaries as Dr. Budd and Mr. Drew it was no small credit to the rector of Christleton to carry off the principal prize. His winning box of twenty-four was a really fine one, strong all through. The quality of the Teas may be understood from these facts—that the Rev. F. R. Burnside was showing in fine form, yet he was beaten in two out of three classes by Dr. Budd, whose boxes of twelve distinct and six Ethel Brownlows were really charming.

Herbaceous flowers were as usual a great feature in the Show. Messrs. Dickson of Chester staged a fine collection of twenty-four varieties, but it was justly remarked that several had evidently been grown under protection, and therefore could hardly be called hardy. The amateurs showed strongly. There were two collections of thirty-six varieties, five of twenty-four, and two of twelve; and in all of them the flowers and arrangement were remarkably good. The best collection was undoubtedly that of thirty-six varieties staged by the Rev. L. Garnett, the notable flowers in which were *Scabiosa caucasica*, *Senecio japonicus*, *Lilium testaceum* and *pardalinum*, *Eryngium Oliverianum*, *Centaurea macrocephala* and *dealbata*, *Helenium Bolanderi*, *Hypericum coris*, *Lychnis chalcidonica* and *Haageana*, *Amaryllis longifolia* alba, *Hemerocallis Thunbergi* and *fulva*, *Chrysanthemum maximum*, *Gail-lardia grandiflora*, *Phlox Lady Napier*, *Gladiolus "The Bride"*, *Bupthalmum salicifolium*, *Sidalcea oregana*, *Lychnis coronaria hybrida* (A. O. Walker), *Campanula lactiflora* and *persicifolia* (pallida and alba p'ona), *Galega alba*, and *Catananche cœrulea*. Mrs. Ince's winning collection of twenty-four was striking, and well set up with good flowers of *Iris Kœmpferi*, *Delphinium*, and *Phlox*.

Roses, nurserymen's classes, thirty-six distinct.—Messrs. Dicksons (Limited) were first with good blooms of *Horace Vernet*, Mrs. J. Laing, Alfred Colomb, Her Majesty, A. K. Williams, Beauty of Waltham, and Marie Rady. Mr. Rumsey was second with good specimens of Mrs. J. Laing, Duke of Edinburgh, Star of Waltham, Dupuy Jamain, Duke of Teck, and Victor Hugo. In twelve triplets these exhibitors were placed in the same order.

Amateurs' classes, twenty-four distinct varieties.—A hard fight for first place decided in favour of the Rev. L. Garnett, whose box contained



Marie Finger, Louis Van Houtte, Duke of Teck, La France, Alfred Colomb, Susanne Rodocanachi, Her Majesty, Charles Lefebvre, Comte Raimbaud, Marquise de Castellane, Xavier Olibo, Comtesse d'Oxford, Merveille de Lyon, Duchess of Bedford, J. S. Mill, Mad. G. Luizet, Comtesse de Camando, Ulrich Brunner, Mrs. J. Laing, Marie Baumann, François Michelin, Marie Cointet, Camille Bernardin, Duchesse de Morny. Mr. W. Drew of Ledbury was second, having very fine blooms of Horace Vernet, Pride of Waltham, Victor Hugo, Duchesse de Morny, Marie Baumann. Dr. Budd of Bath was third, Mr. J. A. Hodgson of Higher Bebington fourth. There were seven boxes shown. In the class for twelve distinct there were eight boxes, and the first prize was won by the Misses Squarry of Bebington, their best flowers being Marie Finger, François Michelin, Etienne Levet, Le Havre, and Dr. Andry. Second, Lieut.-Colonel Standish Hore of St. Asaph. Third, Mr. D. Walford of Spital. Fourth, Mr. C. Burgess of Plumley. There were seven boxes of six distinct. Lieut.-Colonel Standish Hore was here first. Second, Mr. T. R. Fleming of Rowton. Third, Mr. C. Burgess. Fourth, Mr. D. Walford.

Six of any one pink Rose, nine boxes were shown.—First, Mr. H. G. Roberts of Mould with Madame G. Luizet. Second, Mr. T. R. Fleming with La France. Six of any one red Rose, six boxes were shown.—First, Mr. H. G. Roberts with Marie Baumann. Second, Rev. L. Garnett with Alfred Colomb. Six of any one dark Rose, five boxes were shown.—First, Rev. L. Garnett with Louis Van Houtte. Second, Mr. C. Burgess with Prince Arthur. Six any white Rose, four boxes.—First, Rev. L. Garnett with Merveille de Lyon, and second, Mr. C. Burgess with the same. Six of any one Tea, three boxes were shown.—First, Dr. S. P. Budd with Ethel Brownlow. Second, Rev. F. R. Burnside with The Bride, very fine.

Teas, twelve distinct, three boxes shown.—First, Dr. S. P. Budd, best blooms being The Bride, Comtesse de Nadaillac, Innocente Pirola, Ethel Brownlow, Catherine Mermet, and Caroline Kuster. Second the Rev. F. R. Burnside, his best being Souvenir d'Elise, Catherine Mermet, Bride, Madame de Watteville, Caroline Kuster, all the above were very fine. Third, Rev. L. Garnett. Six distinct, five boxes were shown.—First, Mr. W. Drew. Second, Lieut.-Col. Standish Hore. Third, Mr. H. G. Roberts. Triplets, four distinct.—First, Rev. F. R. Burnside; second, Dr. S. P. Budd, both very fine boxes.

Herbaceous flowers, amateurs, thirty-six varieties.—First, Rev. L. Garnett; second, Mr. C. W. Townshend, Trevallyn. Twenty-four varieties.—First, Mrs. Townsend Ince, Christleton Hall; second, Mr. D. Large, Christleton; third, Mr. D. Walford. Twelve varieties.—First, Mr. J. Wynne; second, Mr. J. Major, both of Waverton.

### NEW PEAS AND STRAWBERRIES.

CALLING a few days ago upon Mr. Lansdell, the skilled and very successful gardener at Barkby Hall, near Leicester, I was shown through the collection of the above raised during the last several years from seed obtained by artificially crossing some of the best and most popular standard varieties. The work has been conducted in a most systematic manner, selecting in the first instance two varieties from which he thought, when intercrossed, a useful progeny might be obtained, and then proceeding to cross them both ways; as, for instance, Duke of Albany  $\times$  Dwarf Mammoth, and Dwarf Mammoth  $\times$  Duke of Albany. A strict record is kept of all these crosses, so that the parentage of any variety under notice can be given at once. As he has been quietly but persistently working in this manner now for the past five or six years, the result is an interesting and apparently valuable collection of new and distinct varieties, many of them showing some characteristics of both parents, and especially is this the case amongst the Peas.

One or two interesting points in connection with this subject have been noted and recorded, and may be here mentioned. First, that each pea contained in the pod resultant from the artificially fertilised blossom produced a plant of entirely different habit and character, peas from the same pod producing a tall robust Pea growing 6 feet or more in height, and a dwarf not more than 2 feet 6 inches to 3 feet in height. Secondly, he finds that it takes three or four seasons for a new variety raised in this manner from cross-fertilisation to become settled and fixed in character. During the first two or three seasons of a new Pea's career, although the larger portion come true to the type first shown, yet others of a different type are constantly appearing amongst them.

A few of those I noticed as especially promising are—No. 1, Dwarf Mammoth Marrow  $\times$  Duke of Albany. This is a remarkable Pea. Of strong robust habit, height 5 to 6 feet high, immensely productive, bearing large well-filled pods in pairs almost from the ground to the summit, its singularity consisting in the small size of its foliage. Its leaflets are so small as to be scarcely noticeable, and at a short distance away it appears to be carrying a heavy crop of peas upon stems quite bare of leaves. This is evidently an advantage from the gatherer's point of view, as every pod stands out in bold relief, and may be seen at a glance without any necessity for turning aside any portion of haulm to find them. This is, I think, likely to become a useful market sort.

No. 2, Matchless Marrow  $\times$  Telegraph.—A tall growing robust Pea with large leafage, possessing a large amount of the characteristics of Telegraph, but having a larger and more handsome pod.

No. 3, Matchless Marrow  $\times$  Dwarf Mammoth.—This is a fine type of dwarf Pea, growing about 3 feet in height, and is densely covered with large pods. This will be adapted for small gardens, or where long Pea sticks are difficult to obtain.

No. 3, Prince of Wales  $\times$  Telegraph.—This grows 3 feet high, and is very prolific with fine large pods. An improved Prince of Wales, which is saying a good deal in its favour. Three others from the same cross all differ from it and from each other considerably.

No. 4, Prince of Wales  $\times$  Ne Plus Ultra.—This has the habit of growth and general appearance of the latter, but with much larger and more handsome pods.

No. 5, Dwarf Mammoth  $\times$  Duchess of Albany.—A dwarf growing variety, having very large pods, most of which contain eleven large peas; suitable for exhibition.

No. 6, the same cross reversed, has produced a tall strong growing Pea closely resembling The Duchess in most points, but with larger pods.

Of new Strawberries Mr. Lansdell has a large number raised from various crosses; many of them are most promising varieties, but time and space will not now allow of my going into details concerning them. One which appeared likely to be the best, was a strong grower, producing large dark green foliage splashed and striped with white; the fruit is very large, of a deep rich colour and good flavour. Parentage—Loxford Hall Seedling  $\times$  La Grosse Sucrée. The fruit resembles the former variety in shape, but is much earlier, being a midseason variety.—W. K. W.

### THE PRIORY, HORNSEY.

THIS is the residence of H. R. Williams, Esq., whose name is familiar as that of one of the Past Masters of the Fruiterers' Company, who gave twenty-five guineas for an essay on hardy fruit culture. Mr. Williams is a great city wine merchant, and his cellars in Lime Street constitute one of the astonishing sights of underground London. He is wealthy, and dispenses his wealth wisely, having been engaged for forty-six years in the rescue of the waifs and strays of the city, feeding, clothing, and educating them in industrial schools, finding them positions in life, and making them useful and respected members of the community. Other gentlemen co-operate with him, his partner, Mr. Lloyd, being the Secretary of and a most sympathetic and energetic worker in this truly admirable enterprise. It is found that eighty-five per cent. of the children so rescued and "brought up" so well (and they must be numbered by thousands) have become worthy citizens, while some have been lost sight of through emigration, and there is reason to believe that at least ten per cent. of these have succeeded in attaining creditable positions in life. It may be added that a scholar of one of these industrial schools designed the beautiful certificate for the Fruiterers' Company that was presented by Sir James Whitehead at the recent Mansion House meeting to some of the chief exhibitors of fruit, not for competition, at the Guildhall Show last year. It is a chaste production, and in its way unique. Mr. Williams is probably never more happy than in seeing that his guests—his invited friends and the regiments of children—are also happy at the different garden parties that he gives at The Priory during the summer months. One of these pleasant "At homes" was held last Thursday, the Cambridge Heath school children, about 150 girls, being entertained, as happy, healthy, and bright an assemblage as one could wish to see. But this is not gardening. It is not, though the work referred to is as good as gardening, and such as must commend itself to the gardening community. They are engaged in cultivating plants and crops for making the world brighter and better. Mr. Williams is also making the world better by training and cultivating those who, but for the effort, would mostly remain among the weeds of humanity. But he cultivates flowers and fruits too, giving much encouragement to his gardener, Mr. Rowbottom, who is not unknown in the Chrysanthemum world, and will, perhaps, be better known in future.

Mr. Williams is President of both the Hornsey and Highgate Chrysanthemum Societies, and has undoubtedly one of the finest collections of Chrysanthemums in the kingdom. The plants number 700, and every one appears to be in the best of condition, sturdy in habit, with thick brown stems and stout foliage down to the pots. His gardener has endeavoured to manage the different varieties so that the buds will come "right," and the promise of success in that respect is very satisfactory. All the best established varieties are grown as well as most of the new sorts of repute, and he has also several home-raised seedlings. Perhaps some Chrysanthemumite may be interested in hearing that good buds are set in this collection of Mrs. Alpheus Hardy, and fine blooms may be expected. Louis Boehmer is also showing, the plant being of sturdier growth. The plants of both the "bristly yanks" are looking remarkably well, and are wisely assigned a warm and dry position on the south side of one of the glass structures. There is certain to be a fine display of Chrysanthemums here in the autumn, and some of them may possibly find their way into prize stands. Mr. Rowbottom exhibited last year and won £12. Like a prudent man he told Mr. Williams (who of course had a legal right to the money), and asked him what he had better do with it. "Put it in the bank for yourself," was the reply, "and try and double it another year." So now as the gardener says he has a clear understanding, and knows what to do, but as Mr. Williams is such a good master he would have given the prize money up without a murmur.

Fruit trees are grown in the old fashioned garden, and it seems they grew too well. After reading the essay Mr. Williams had some of them root-pruned, and has now more fruit than he has had for six years. Some of the trees are bearing too well, and would be benefited by having the crops thinned. Grapes and Peaches are grown under glass, but one of the houses has to be kept too close, in advancing the late Grapes, for the well being of the Peaches; moving the hot-



water pipes from under the back path to the front would be of advantage to both.

The Priory grounds are park-like and well wooded. They adjoin the Alexandria Palace. The flower beds are bright, especially those of the best of all tricolor Pelargoniums, Mrs. Henry Cox, the foliage being all aglow with bright colours. Among other specimens on the lawn is a fine "Smoke Tree," *Rhus cotinus*, covered with its gauzy cloud-like inflorescence. The mansion is quaint, the garden enjoyable, and children, old and young, spend many happy hours with their hospitable friends, Mr. and Mrs. Williams.—A VISITOR.

### THE FRUIT CROPS NEAR LIVERPOOL.

#### CALDERSTONES, AIGBURTH.

CHERRIES May Duke, Elton, and all early and midseason varieties have carried a good crop. Morellos are not so good. Plums and Damsons nil, the fruit falling owing to the cold winds. Raspberries are abundant, the same remark applying to Gooseberries, also Black, Red, and White Currants.

Apples are a good general crop. In many cases thinning has had to be resorted to, the fruit being so small. The varieties that are doing best this, as well as former years, are Warner's King, Lord Suffield, Hawthornden, Jolly Beggar, Stirling Castle, Keswick Codlin, Dumelow's Seedling, Golden Noble, Tower of Glamis, Ecklinville, Ribston Pippin, and Annie Elizabeth. The latter Mr. Tunnington informed me is a splendid Apple, and ought to be more grown.

Pears are a good crop. The fruit is small and has had to be thinned, and unless we have a very fine autumn the crops will be nearly useless. The varieties bearing the best are Williams' Bon Chrétien, Louise Bonne of Jersey, Jargonelle, Souvenir du Congrès, Beurré Diel, Beurré Rance, Doyenné du Comice, Winter Nelis, Pitmaston Duchess, Uvedale's St. Germain, and Vear of Winkfield.

Peaches on open walls are a fair crop. Early Beatrice is just changing colour, Grosse Mignonne a full crop, Walburton Admirable a sprinkling; the same remark applies to the remaining varieties grown. Lord Napier Nectarine has a full crop and is always good.

Strawberries.—An abundant crop, but owing to so much rain many have been spoiled. King of the Earlies has been the first to ripen; it is a few days earlier than Vicomtesse Hericart de Thury. The fruit is small but good in colour. Mr. Tunnington considers it most useful to succeed the forced crop, but Vicomtesse is a greater cropper, and being bright in colour, is useful for preserving. Auguste Nicaise, good for forcing and in the open. Laxton's Noble produces fine fruit from the first gathering, then the later being small and badly formed. Laxton's Commander showed plenty of fruit on strong footstalks, but did not swell off and had the appearance of being sealded. It is to be discarded, as are Jubilee and A. F. Barron. President, Sir J. Paxton, and Sir Charles Napier are excellent in every respect, and not surpassed by the new varieties grown here. The best late varieties are Stirling Castle, Oxonian, and Waterloo.

#### RAINFORD HALL, NEAR ST. HELENS.

Apples a fair crop, quantities fell after setting owing to the late frosts.

Pears are a good crop, Plums very good, and Cherries abundant. Strawberries, early crops suffered from the late frosts when in bloom, but President, Vicomtesse Hericart de Thury, and later varieties have been very good, but late. Bush fruits, with the exception of Black Currants, are heavily cropped. In addition Mr. Middleton stated that the early sorts of Potatoes are fully three weeks later in the lifting, but second earlies and late varieties promise good crops, and vegetables of all kinds are excellent, but late.

#### BLACKLOW HOUSE, ROBY.

Apples are an average crop. The trees when in bloom were perfect pictures, but late frosts were destructive. The varieties bearing the heaviest crops are Lord Suffield, Stirling Castle, Ecklinville, Golden Noble, New Hawthornden, Blenheim Pippin, Ribston Pippin, King of the Pippins, Nelson's Glory, Alfriston, Brabant Bellefleur, Flanders Pippin and Rose of Sharon (Rose de Chine).

Pears a good crop, but fruit very small. Particularly good on espaliers and standards are Marie Louise, Citron des Carmes (enormous crop), Beurré Diel, Easter Beurré, Beurré Rance, Beurré d'Amanlis, Hacon's Incomparable, Grosse Calabasse, Fondante d'Automne, Prince Consort, Winter Nelis, and Crassanne. Strawberries an excellent crop, the best being Noble, Vicomtesse Hericart de Thury, James Veitch, President, Sir C. Napier, Sir J. Paxton, and Waterloo. Raspberries and Gooseberries, with Red, Black, and White Currants, are all good. Early Cherries fair, but Morellos laden. Plums, with the exception of a local variety, quite a failure.—R. P. R.

### THE DOUGLAS FIR.

THE Douglas Fir, from many points of view, is one of the most interesting trees of the American forest. Its monotypic character, its probably recent development in its distinct existing form, for the record of the ages has not divulged the secrets of its ancestry, the vastness of the region it occupies, its size and value to man, its beauty and capacity of adapting itself to new surroundings, all make this Fir an important inhabitant of the forests of Western America—forests remarkable for the variety, size, and value of the cone-bearing trees of which they are

principally composed. The Douglas Fir is distinguished from the true Firs or Abies by its petioled leaves, which, in falling, leave oval scars, by its pendulous cones with persistent scales, and by its seeds, which are not furnished with resin vesicles. It looks, moreover, in general appearance, more like a Hemlock than a Fir; it differs from the Hemlock, however, in the absence of the permanent, persistent bases of the fallen leaves which roughen the branchlets of all Hemlock trees, and in its much larger cones, which may be always recognised by the large acutely two-lobed and long-pointed bracts extended beyond the scales. It can be readily known, too, by the flat, distinctly stalked leaves which are somewhat two-ranked by a slight twist at their base.

Where climatic conditions favour the growth of large trees, as they do in the humid region of western Washington and Oregon, or on the middle western slopes of the northern Sierra Nevada, the Douglas Fir often rises, in the course of 500 or 600 years, to the height of 300 feet, and forms a trunk 10 or 12 feet in diameter above its enlarged base. The bark, which, like that of the Hemlocks, contains a considerable amount of tannin, is thick, deeply furrowed, and dark brown or red, or sometimes grey in certain situations. Young trees, like young Spruces and Firs, are pyramidal in form, and retain their lower branches for a considerable time, sometimes even for 200 or 300 years, when the individual finds sufficient space for their lateral growth, as it does occasionally when it has stood on the margin of the forest or on the steep slopes of some mountain canon. Usually, however, the trees stand close together, especially in those parts of the country in which, under the favouring influences of a heavy rainfall, they grow to the largest size, and then their great trunks tower upward, for 100 feet or more, without a branch. The leaves are linear and generally obtuse, an inch or 1½ inch long, dark green, and very abundant, covering the long, slender, graceful branchlets. The flowers of the Douglas Fir are produced from the axils of the leaves of the previous year, the males surrounded by conspicuous bud-scales, the females much shorter than their narrow bracts. The cones, which are subcylindrical, ripen the first year, and vary in length from 2 to 4 inches. The seeds are triangular, convex, and red on the upper side, flat and nearly white on the lower side, with short wings, broad at the base and acute at the apex.

This Abies extends from latitude 55° north, where it is found in the coast ranges and on the interior plateau of British Columbia, southward through all the region west of the Cascade and the Sierra Nevada Mountains to Southern California. It is abundant in the Rocky Mountains from British Columbia far into Mexico, extending eastward to their eastern slopes in Montana, Wyoming, Colorado, and Texas; it is common on the Wahsatch and Uintah Mountains in Utah, but is unknown on the ranges of the great basin and on the eastern slopes of the Sierra Nevada. It is most abundant, and reaches its greatest size on the low glacial plain which surrounds the shores of Puget Sound. Here the Douglas Fir can be seen in all its majesty. It is the most common tree in a forest in which trees stand so close together that the traveller can barely push his way between their mighty trunks which support far above his head a canopy so dense that the rays of the sun never pierce it. Through these dark and awful shades the most thoughtless man cannot pass without experiencing that sense of solemnity and awe with which the human mind is impressed when confronted by Nature in her grandest manifestations.

The Douglas Fir grows almost as large on some of the California mountain slopes as on the shores of Puget Sound, and it is one of the remarkable things about this tree that it flourishes at the sea level and on high mountains. In California it often grows to a great size at elevations varying from 6000 to 8000 feet above the sea, and sometimes ascends on the Rocky Mountains of Colorado to even higher altitudes, although it is always smaller and less valuable as a timber tree in the dry interior portions of the Continent than in the moist coast region. Other trees of the Pacific Forest produce more valuable wood than the Douglas Fir—the Port Orford Cedar, the Sugar Pine, and the Redwood. These trees are confined to a comparatively small region, however, and the Douglas Fir, in view of the great territory over which it has spread, must be considered the most important timber tree of Western America, and of no other tree is there now standing such a body of valuable and available timber. The wood of the Douglas Fir is hard, strong, and durable; it may be recognised by the numerous spirally marked wood cells which distinguish it from the wood of allied Conifers. The small cells which are developed in the wood of Conifers at the end of the growing season are very numerous, and form broad bands which often occupy half the width of the layers of annual growth. These bands of small cells are dark coloured and conspicuous, and become hard and flinty with exposure, making the wood of this tree difficult to work except when it is freshly cut. Some trees produce light red and some yellow wood, and individuals vary to a much greater degree than those of most other trees in the time required for their sap-wood to turn into heart-wood. The yellow wood is closer-grained, and is considered much more valuable than the red wood. Lumbermen recognise these two varieties and pretend to be able to distinguish the trees which produce them, an assumption which still needs demonstration. The conditions which lead to the formation by the same species of such different wood are not well understood; in the case of the Douglas Fir they are probably due to soil and elevation, and, in part at least, to the age of the individual. The wood of the Douglas Fir is known in commerce as red fir, yellow fir, and Oregon pine, the last name belonging, however, more properly to the wood of the Yellow Pine (*Pinus ponderosa*) of Western America. It furnishes the principal product of the immense saw-mills situated on Puget Sound, and is manufactured, besides,



wherever forests of this tree exist; it is used for all sorts of building purposes, and for construction, railway ties, and fuel.

*Abies Douglasi* was discovered late in the last century by Archibald Menzies, Vancouver's surgeon and naturalist, on his voyage of discovery; and a few years later Lewis and Clark found it in Montana during their transcontinental journey. David Douglas rediscovered it on the Columbia River in 1825 and introduced it into England; and it is the name of this bold and enterprising botanist which has become associated with this tree, although, unhappily, it cannot bear it in the language of science. No tree is more unfortunate in its name; and there are few instances where the application of the rules which govern botanical nomenclature has produced a more unsatisfactory result. Lambert, who first named the tree, called it *Pinus taxifolia*, from the fancied resemblance of the leaves to those of the Yew tree; then Lindley, disregarding Lambert's specific name, named it *Abies Douglasi* in honour of its rediscoverer. Carrière, recognising the characters which separate this tree from the true Fir, coined for his genus a bastard word, half Greek and half Japanese, and called it *Pseudo-tsuga*, a perfectly improper name, as it has little in common with *Tsuga*, the Japanese name for the Hemlock. Carrière retained, however, Lindley's *Douglasi*, calling the tree *Pseudo-tsuga Douglasi*, but as Lambert's specific name is the oldest, the Douglas Fir must be known as *Pseudo-tsuga taxifolia*, a name bad in every way, and especially bad in its failure to recognise the name of Douglas, which, more than that of any other man, should be associated with it.

It has proved itself in cultivation to be an ornamental tree of great value. The largest specimen in England is already more than 110 feet high, with a stout trunk furnished with branches from ground to tip, and showing no signs of diminishing vigour or beauty. The earliest attempts at cultivating the Douglas Fir in the Eastern States were not successful; the trees raised from seed, gathered in the mild and humid climate of the north-west or in England, first planted here were unable, except in exceptional positions, to support our climate for any length of time. The late Dr. Parry, however, in 1862 discovered the Douglas Fir growing on the eastern slopes of the Rocky Mountains of Colorado in a climate distinguished by the severity of the cold of winter and by the drought of summer; he sent seed to the Botanic Garden at Cambridge, and the plants raised from this seed have proved hardy in the most trying situations in New England. Some of these trees are now more than 20 feet high, and although it is too soon to speak with anything like certainty in the matter, there is reason to hope that they will grow to a large size and retain their beauty for many years.

Much attention has been given to the Douglas Fir of late years as a subject for forest planting in Europe, although the best authorities on such matters do not yet agree as to its value for this purpose. Large experimental forest plantations are made every year, especially in some parts of Germany, where some forest experts believe that the Douglas Fir is to rival and finally replace the Larch in Europe as a timber tree. It has the merit of growing with surprising rapidity and of producing a large amount of timber in a comparatively short time. Few coniferous trees grow as rapidly as this Fir, and it is not uncommon to see self-sown seedlings in Washington and Oregon producing, when they stand very close together in good soil, annual shoots 12 feet long. A remarkable form, distinguished by its large cones, occurs on the San Bernardino Mountains in California. It has been considered a variety of the typical tree, and by some botanists a second species—a view supported by the fact that no intermediate forms connecting it with the type have been found, while in the region north and south of that occupied by this large fruited tree the typical Douglas Fir abounds.—(*American Garden and Forest.*)

## NATIONAL PINK SOCIETY.

### NORTHERN SECTION.

IN our last issue a brief notice of the annual exhibition of Pinks at Manchester was given, and a full list of the awards is now supplied. For twelve blooms, six at least dissimilar.—First, Mr. A. R. Brown, Handsworth, Birmingham, with Boiard, Amy (Brown), a very fine bloom; Bertram, Maud (Brown), Ethel (Brown), Minerva, Mr. J. Cronk, and Modesty; a very fine stand of blooms. Second, Mr. Samuel Barlow, Chadderton, Manchester, with Boiard, John Dorrington, Campbell's Nothing Better, Hooper's No. 1, Mrs. Barlow, George Hodgkinson, and Defiance. Third, Mr. William Taylor, Middleton. Fourth, Mr. Campbell, Blantyre. Fifth, Mr. C. H. Thurstan. For six blooms, dissimilar.—First, Mr. C. H. Thurstan, Wolverhampton, with John Dorrington, Boiard, Mrs. Thurstan, and three seedlings, one of them (No. 4) a very promising flower. Second, Mr. A. R. Brown, with Mrs. Dark, Bertram, Ethel, Amy, Modesty, and George White. Third, Mr. S. Barlow. Fourth, Mr. J. Edwards, Blackley. Fifth, Mr. F. Morton, Wolverhampton.

For six blooms, not less than three dissimilar.—First, Mr. A. R. Brown, with Bertram, Amy, Minerva, The Rector, and Mrs. J. Cronk. Second, Mr. W. Taylor. Third, Mr. S. Barlow. Fourth, Mr. Burgess. Fifth, Mr. Thurstan. For three blooms, one red-laced, one purple-laced, and one black-and-white.—First, Mr. Taylor. Second, Mr. Barlow. Third, Mr. Thurstan. Fourth, Mr. Burgess.

Single blooms, purple-laced.—First, Mr. Brown, with Bertha. Second and third, Mr. Barlow, with Boiard. Fourth, Mr. Taylor, with Samuel Barlow, and fifth with a seedling. Single bloom, red laced.—First and third, Mr. Brown, with Empress of India, and second with Amy. Fourth and fifth, Mr. Taylor, with seedlings.

Collection of Pinks set up in bunches as cut from the borders.—First, Mr. T. Walkden, Sale, near Manchester, his most noteworthy kinds being Souvenir de Sale, William Brownhill, and Mr. Walkden. The premier red-laced was a fine bloom of Empress of India; and the premier purple-laced a grand bloom of Boiard, both belonging to Mr. A. R. Brown and in his winning stand of twelve.

First-class certificates were awarded to Mr. A. Brown for Amy (seedling), a large flower with broad smooth petals and of first-rate quality; to Bertha (Paul), exhibited by Mr. Brown, a smooth finely formed flower with dark purple lacing; and to Mr. J. Edwards for seedling James Percival, red laced, good petal, and clean lacing. A third-class certificate was also awarded to a very fine self white variety, with broad petal and smooth edge, named Mrs. Walkden, exhibited in Mr. Walkden's collection.

## BAPTISIA EXALTATA.

OCCASIONALLY in old borders of herbaceous plants specimens are seen of *Baptisia exaltata* (fig. 15) and a few other forms, but they can scarcely be said to be common, though in good soil and with ordinary attention



FIG. 15.—BAPTISIA EXALTATA.

they are much more effective than many occupants of our gardens. Good clumps, with stems 3 or 4 feet high, and bearing large racemes of bright blue flowers, produce a fine display, and are useful as a background to dwarfer plants.

*Baptisia exaltata* was described by Robert Sweet in his "British Flower Garden" in 1825, and he there gives the following history of the plant:—"The present stately perennial plant is a native of North America, and was introduced from thence in the year 1812 by the late Mr. John Lyons, at the sale of whose plants it was sold by the name of *Podalyria exaltata*; we were afraid that it was again lost to our collections until we were agreeably surprised, the year before last (1824), in seeing it growing very strong, and flowering luxuriantly, in the Apothecaries' Garden at Chelsea. It is readily distinguished from *B. australis* by its much stronger and upright growth. The latter species was growing beside it in the same collection, so that the difference was readily perceptible; we do not know that the present species exists in



any other collection. It succeeds well in the open air in the common garden soil, and we have no doubt but it might be increased by dividing at the root, in the same manner as *B. australis*; we also believe it would produce perfect seeds if pains were taken to fertilise the stigmas with the pollen when in bloom."

## HORTICULTURAL SHOWS.

### THE THAMES DITTON HORTICULTURAL AND INDUSTRIAL SOCIETY.

THE fourth annual Exhibition of this Society took place on July 22nd in a meadow attached to The Cedars, Portsmouth Road, by the kind permission of H. Cooper, Esq. The Show under notice was a distinct advance upon its predecessors, and this was very observable in the groups of plants arranged for effect. First honours were awarded in this section to a beautiful arrangement contributed by Mr. J. Plowman, gardener to L. Smith, Esq., Woodstock, Long Ditton. He was very closely followed by Mr. William Palmer, gardener to the Right Hon. W. F. Hume Dick, Thames Ditton House, whose efforts were worthy of all praise. The third prize went to Mr. H. Farr, gardener to Hannibal Speer, Esq., Manor House, Thames Ditton, who showed a creditable group. The latter exhibitor secured the premier honour for six stove or greenhouse plants with well-developed examples. The second prize plants were from Mr. W. Palmer, and very good. Third, Mr. W. Mearning, Cock Crow Hill, Long Ditton. Messrs. Sutton & Sons offered special prizes for a collection of vegetables. The leading position was taken by Mr. W. Palmer with some grand samples. Second, Mr. J. Plowman. The cottagers made a first-rate show of flowers, fruit, and vegetables.

Non-competitive groups added much to the beauty, interest, and attractiveness of the Show. Messrs. Barr & Son, Covent Garden, whose well-known trial grounds are at Long Ditton, staged a splendid collection of hardy flowers. Mr. Robert Lambert, Thames Ditton, fine Poppies, Roses, and Stocks. Messrs. John Laing & Sons, Forest Hill, contributed a beautiful and well arranged group of hardy flowers; whilst Gloxinias were well shown by Messrs. Peed & Sons, Streatham. Messrs. Lewis & Williams, Ember Nurseries, made an attractive display of bouquets and other cut flowers.

Very interesting was the industrial part of the Exhibition. In this section prizes were offered and awarded for needlework and other handicraft executed at home—a most deserving innovation and worthy of every encouragement. Much credit is due to Mr. William Palmer, the energetic Hon. Secretary, and Mr. A. W. Cousins, the courteous Hon. Treasurer, for their successful endeavours to render the Exhibition a success and a source of pleasure to the numerous visitors.

### WALTHAM ABBEY AND DISTRICT.

THE sixth annual Exhibition of this Society was held at Waltham Cross, in a field near the railway station, on Thursday, July 23rd. The entries in the open classes showed a decided advance on former years, though there was a slight falling off in the amateur section. This was especially noticeable in the vegetable classes. The principal classes devoted to all comers brought out some splendid plants. The groups arranged for effect occupied one side of a large marquee. Mr. Ayling, gardener to A. J. Hollington, Esq., secured first position. The grand Orchids used were *Cattleya Dowiana*, *Sanderiana*, *Mossiae*, and *gigas*, with *Oncidiums*, *Odontoglossums*, and *Cypripediums*. They were associated with *Tuberous Begonias*, *Ferns*, and *Cocos Weddelliana*. Mr. J. Nicholsson, gardener to W. Melles, Esq., was second. His group was lightly arranged, and contained a fine specimen of *Brassia verrucosa*; Mr. J. Langlands, gardener to J. W. Melles, Esq., taking the third position. For a miscellaneous group, Orchids excluded, Mr. Nicholsson was first; Mr. J. Turk, gardener to P. Bosanquet, Esq., a close second. His *Crotons* were beautifully coloured; and Mr. J. Watt, gardener to J. Reid, Esq., was third with a heavier display. There was close competition with six miscellaneous plants. Mr. Nicholsson was first, and his plant of *Acalypha Macaefcana* was very showy. Mr. Ayling and Mr. A. West, gardener to A. H. Lancaster, Esq., secured the other honours in the order named. The Palms from the latter were grand. *Caladiums* were not represented by the large plants we usually see at shows, but they were good varieties well coloured. The class for stove and greenhouse plants was as usual very attractive, Mr. Ayling's plant of *Clerodendron Balfourianum* attracting great attention. For *Ferns*, six distinct, Mr. Ayling led with some fine specimens. Mr. Green, gardener to Sir T. F. Buxton, second. Mr. West third. The class for *Tuberous Begonias* was well filled, Messrs. Ayling, Watt, and Jupp winning the prizes in the order named. The best single specimen Orchid from Mr. Ayling was a grand *Cattleya Sanderiana*. Single specimen *Ferns* were very fine. Mr. Green was first with a magnificent *Gymnogramma chrysophylla Lauehcana*; Mr. Ayling second with *Gleichenia Mendelli*; and Mr. W. Clarke, gardener to W. Gibbs, Esq., with *Adiantum formosum*. Single specimen plants were well represented. First was a fine specimen of the *Screw Pine*, *P. utilis*, exhibited by Mr. West. *Fuchsias* were good, though the competition was not strong. First, Mr. Ayling; second, Mr. Nicholsson. The leading *Coleuses* from Mr. West were well coloured plants. Second, Mr. Langlands; third, Mr. Nicholsson. The competition for table stands was keen, and brought numerous entries, Mr. May, gardener to H. J. Adams, Esq., taking the first place. His best plants were *Aralias elegantissima* and *Veitchi gracillima*. Second, Mr. Langlands; third, Mr. Nicholsson.

Roses were rather strong, and did not appear to have suffered by the recent storms. The competition for Teas was weak, though the prize-

winning stand was beautifully fresh. The competition for Carnations, Pinks, and Picotees was poor. The flowers are backward in the district, consequently many growers were not represented. The chief prizes for twelve bunches cut, stove, and greenhouse flowers went to Mr. Ayling, his Orchids being invincible. Mr. Nicholsson was second, and Mr. May third. Hand bouquets (five entries) were ordinary. The first prize bouquet from Mr. Ayling was far ahead of the others. Mr. Nicholsson was second, and Mr. Clarke third.

Grapes were not largely represented. Melons made a greater show, while Peaches and Nectarines were fine. Cucumbers brought out a good competition. Mr. T. Hamilton was first, and Mr. Poyser second. Of Tomatoes a large and representative display was provided, and the collections of vegetables attracted great notice, Mr. Clarke securing first prize and Mr. Langlands the second. The ladies' classes were certainly the best ever seen at this Show, and great improvement was manifested. The premier winner in both classes was Miss Ellen Vincent, with light and graceful arrangements. Amateurs and cottagers compete together, and are allotted forty-three classes. The cut flowers in this department were good, especially Mr. W. Rigg's Roses and Mr. S. Fear's Carnations and Picotees. The plants were also good; Mr. Gregory's *Fuchsias* were excellent. Their fruit was also fine. Vegetables do not appear to attract much competition. The Committee would do well to spur these classes up, for there is plenty of material in the district.

The exhibits not for competition were a show themselves, Messrs. Paul & Son, Cheshunt, staging Roses, herbaceous flowers, a beautiful collection of Cannas, *Disa grandiflora*, Peas, Strawberries, and Gooseberries. Mr. Rumsey had a very fine collection of Roses and Palms. Mr. T. Rochford filled all available space, as well as two fine groups with Palms in all the popular species. Mr. T. Hamilton had a group of Maidenhair Fern; A. J. Edwards, Esq., showed a large miscellaneous group. Mr. J. B. Riding sent a collection of spotted Gloxinias. Mr. Poyser showed fine Tomatoes and Cucumbers. Mr. T. Rochford also contributed a grand display of Cucumbers, Tomatoes, and Melons. The Exhibition is certainly the finest seen in the district, and great praise is due to the energetic Secretary, Mr. John Eve, for the ability displayed in his task.



### HARDY FRUIT GARDEN.

**PLANTING STRAWBERRIES.**—As soon as the runners are well rooted they must be planted without delay, as this is the main point in order to ensure a good crop next season, therefore prepare the ground at once. Strawberries succeed best in a rich, deep, and moist soil, and it is desirable these conditions be secured as far as possible by heavily manuring and deep digging or trenching if it can be done. Mix the greater part of the manure in the top spit. Deep cultivation is chiefly necessary in order to prevent damage while the fruit is swelling in dry seasons. The Strawberry is chiefly a surface rooter, and it is not possible to dig in manure among the plants after they are planted without doing considerable injury. A good supply of manure is, therefore, given before planting to support the plants for three years, at the end of which time it is best in most instances to destroy the beds and form new ones. Under this system a third part of the beds can be cut up every year after fruiting, and a similar quantity planted in order to maintain a good supply.

In planting turn the Strawberries out of the pots without disturbing the roots. Plant them with a trowel, and then ram the earth around them firmly with a wooden rammer in order that the soil may close up to the young roots and fresh root growth may commence at once. Do not proceed with planting if the soil is wet and likely to bind too closely, and care must be taken not to bury the crown of the plants. The distance apart depends on the character of the soil and the consequent growth of the plants. Where the Strawberry reaches its perfection 3 feet apart each way is not too much for such varieties as British Queen, Sir Charles Napier, and President ripening their fruit in a dull wet season; but even in the best of soils some varieties do not grow so strong as the above, and among those which make the least growth are King of the Earlies, A. F. Barron, Elton Pine, Latest of All, Waterloo, and others, and in field culture the growth of all the varieties is much smaller than it is in a kitchen garden.

The following are twelve of the best varieties in their order of ripening, but Strawberries are capricious, and one cannot always be sure a good variety in one place will turn out well in another until it has been tried on a small scale. King of the Earlies, rather small, but useful for a few early fruits, and of good flavour. Noble is worthy of a place for its heavy cropping and fine appearance. Grow Vicomtesse H. de Thury wherever a large quantity of preserving fruit is wanted. President is well known and good. British Queen is still the finest flavoured Strawberry in cultivation, but will not succeed in some soils, and where it fails Dr. Hogg should be tried; it is a similar variety. Sir Joseph Paxton is a useful market kind, of large size and good quality. Sir Charles Napier is a heavy cropper where the soil suits it, and a good firm fruit, but rather too acid for some tastes; the plant is



somewhat tender. Latest of All gives some very fine fruits, but not of the highest flavour. Waterloo is a large dark red Strawberry of excellent flavour, but too often a shy cropper. Elton Pine, a good old late variety, fine in colour, but rather too acid. Oxonian is the latest variety, a fine large fruit and a heavy cropper. The true form is said to be distinct from Eleanor and better.

The early varieties should be planted in warm sunny positions, and the late ones on north borders, which will prolong the season considerably.

After planting mulch the surface of the bed with strawy litter to keep the soil moist and encourage root action. This point is important in order to secure a good start, and if the weather is dry the plants may have a good soaking of water occasionally until they are well started into growth; a good watch must also be kept for runners, which can be pinched off as soon as they appear to prevent any waste of energy in the plants.

#### FRUIT FORCING.

**VINES.**—*Pot Vines for Early Forcing.*—Vines for starting in November to ripen Grapes in March or April ought now to have the wood thoroughly ripe and the buds plump. If not, keep the house rather warmer by day, 80° to 85°, closing early so as to raise the temperature to 90° or 95°, and throw the house open at night. The foliage must be well exposed to light, and as near the glass as possible without touching. Supply water or tepid liquid manure in the case of Vines not inclined to luxuriance in sufficient quantity to prevent the foliage becoming limp, but do not give it until the soil is getting dry.

Lateral growths must be kept in check, leaving no more than are absolutely necessary to appropriate any excess of sap, and so prevent the principal eyes starting. When sufficiently ripened, as they are when the wood becomes brown and hard and the buds are prominent, they should be removed to a position outdoors in the full sun, standing on a board or slates in front of a south wall, fence, or building, securing the canes to the face of the wall, only giving water to prevent the leaves falling prematurely, and having some waterproof material at hand to throw the rain from the pots in case of heavy showers occurring. In this position they will rest even if the leaves are not actually shed, provided they are not kept too moist. When the leaves turn yellow commence reducing the laterals, and when the leaves have all fallen prune, cutting the laterals close to the cane, but without injury to the buds, and cut the cane back to the length required, or from 6 to 8 feet. Dress all the cuts with patent knotting. The Vines should be placed in any cool, airy, dry place until required for forcing. Though dryness at the roots is desirable, the soil must not be allowed to become dust dry, and the pots must be protected from frost by some dry material placed round and over them. It will not of course be necessary if frost has not access to the structure.

*Earliest House.*—A dry atmosphere is now necessary, not so much to ripen the wood as to induce rest. All laterals must be kept stopped and the house cool, with moderate dryness at the roots. The inside border may require water, for it is essential that the roots be kept healthy and the soil not allowed to crack, but if the border has been mulched watering may not be required. Outside borders may need covering with dry straw or bracken in order to throw off heavy rains. This is essential to ensure complete rest, an absolute necessity for Vines long subjected to early forcing, saturated outside borders tending to late growth, but there should be sufficient moisture in the border to maintain growth in the laterals in order to prevent the premature ripening of the foliage. A moderate extension in the laterals will be sufficient to keep the principal foliage in health. Where the Vines are in an unsatisfactory condition preparation should be made for lifting, getting fresh loam and clean drainage, so that the work can be done quickly when begun. One part of the border only ought to be operated on at once, the inside one year and outside the next. This prevents loss of crop. The roots should be lifted and laid in fresh soil nearer the surface whilst there is foliage on the Vines; therefore work of this description ought not to be delayed beyond the early part of September in the case of Vines that ought to be started early in December. The Vines will need pruning by the middle of September or when lifted a little later.

*Houses Required for Early Forcing.*—Vines that have not been started early will need as soon as the crop is off to be thoroughly cleansed by syringing or the application of an insecticide, and if there is any doubt about the ripeness of the wood or the plumpness of the buds it will be necessary to keep the house rather close by day, but with sufficient ventilation to cause evaporation and allow the moisture to escape. Give no more water to the border than will prevent the foliage becoming limp. If the weather prove cold and wet employ fire heat in the daytime to maintain a temperature of 70° to 75° with moderate ventilation, and turn the heat off at night to allow the pipes to cool, increasing the ventilation so as to induce a thorough draught, and this will soon cause the wood to harden and the buds to plump, ensuring rest, which for Vines to be started in December should be complete from the middle to the end of September. When the wood is ripe ventilate fully day and night.

*Vines Cleared of Crops.*—Through Grapes hanging the Vines often become infested with red spider, and by growing plants in the house they are attacked by scale and mealy bug, the dry atmosphere also encouraging thrips. Thoroughly cleanse the Vines, fumigate on two consecutive evenings for the thrips, repeating it in a week or ten days; and syringing forcibly two or three times to eject red spider. Mealy bug and scale may be eradicated by syringing with the following

mixture:—One-third gill of petroleum to 4 gallons of water, in which 8 ozs. softsoap and 1 oz. washing soda have been dissolved, keeping it agitated whilst being applied by stirring briskly with a broom handle or alternating squirts from the syringe into the vessel, thoroughly wetting the Vines in every part. It is best done on a calm evening or dull afternoon, and should be repeated at intervals of three or four days two or three times. If there be any plan's remove them, and to keep the oil from the border it may be covered with dry material. Have the laterals fairly in hand, not closely pinched, unless the Vines are very vigorous and not ripening the wood kindly, when keeping the house rather dry at night, with all the ventilation possible, and somewhat warm and close by day, will promote the maturity of the wood and buds. In stopping vigorous Vines regard must be had to the principal buds, for when all growth is removed as made it may cause them to start, which must be avoided by allowing a little lateral growth, and keeping the soil dry at their roots to the extent of causing the foliage to become rather limp. Weakly Vines should be fed with liquid manure and the laterals allowed to extend, but whatever extension is permitted the extraneous foliage must not in any way interfere with the free access of light and air to the principal leaves, which must be kept healthy, and thus appropriate some of the food and store it in the buds and adjacent wood. Free ventilation will be necessary day and night.

*Grapes Ripening.*—Whilst ripening many Grapes swell considerably, therefore do not allow any deficiency of moisture in the border. Give if needed a good supply of water or liquid manure, and in the early part of the day, so that superfluous moisture may be dissipated before night. Heavily cropped Vines should be allowed time, and supplied with tepid liquid manure, which, if it does not help the current crop, will prevent the exhaustion of the Vines. A good rest at night in a temperature of 60° to 65° with air is a great aid to Vines taxed to the utmost by weight of Grapes. A moderate amount of air moisture also is essential to the health of the Vines, sprinkling available surfaces occasionally, and if possible allow the laterals to extend, but full or overcropped Vines rarely can cater for more than the principal leaves and Grapes. Admit air constantly, enough with a gentle heat in the pipes to insure a circulation, and maintain a temperature by day of 70° to 75°, keeping through the day at 80° to 85° or 90° with sun, and full ventilation.

**MELONS.**—*Late Fruit.*—A sowing should now be made to afford very late Melons. The plants will be fit to plant out in about a month, they will set fruit in September, and that will be ripe in November. A light well heated structure is necessary for this crop, and high culture essential to the fruit attaining good size and high quality. Bottom heat is necessary, and is best afforded by hot-water pipes, but if it is afforded by fermenting materials they must be thrown into a heap, watered, and turned, so as to ensure the needful fermentation, and escape of rank steam.

*Early Autumn Fruit.*—Whatever the quality of Melons may be, good looking fruit is always esteemed if only from a decorative point of view, and some consider Melons unique that possess flavour of a high order in October. The plants to afford fruit at that time must be planted at once, giving them about a couple of barrowloads each of soil made into a flattened cone or ridge, about 12 inches deep in the centre. Good, rather strong loam is most suitable, and if not over fermenting material add a fifth of fresh horse droppings, and in any case a sixth of old mortar rubbish. Make the compost very firm, and have it in a moist state before planting. Turn the plants out carefully, watering them overnight, so that the roots will come away freely from the sides of the pots, and make the soil firm about the ball. Keep the stem slightly raised, and water to settle the soil about the roots. The plants must be encouraged to make a free growth by syringing at closing, and damping available surfaces in the morning and in the evening of hot days. Ventilate between 70° and 75°, and keep the temperature through the day at those degrees by artificial means, 85° to 90° from sun heat, and close so as to raise it to 95° to 100°. Through the night the temperature may fall to 65°.

*Fruit Swelling.*—One of the great causes of indifferent flavour and bad finish is overcropping, therefore the plants must not be overburdened with fruit. It is well, however, to wait until the fruit is fairly swelling, then reduce the number to two on a weak, three on a moderately vigorous, and four on a strong plant. Large and very strong plants may be allowed to carry six fruits. Overcropping is highly prejudicial to the health of the plants, and unless the foliage is kept in good condition to the finish high quality, which depends on solidity, cannot be expected; therefore keep the foliage fairly thin, all having full exposure to light. Earth the plants, giving copious supplies of water and liquid manure, and damp available surfaces with liquid manure twice a week; but it is best to give it often and weak. The drainings of stables, not containing washings, should be diluted with five times the bulk of water.

*Fruit Ripening.*—The atmosphere should be kept dry, and a top heat maintained of 70° to 75° by artificial means, admitting a little air constantly, a circulation of rather dry warm air greatly improving the quality and finish when the fruit is ripening. Water should be withheld from the house unless there is fruit advanced in swelling, when an occasional damping will be necessary for the benefit of the foliage.

*Plants in Pits and Frames.*—The latest plants will be setting their fruit, it being important that the fruit be set at the close of July or early in August to allow time for its swelling and ripening. Give a good watering before the flowers open, and line the sides of the frame and bed with hot dung or the mowings of lawns, and give a little ventilation constantly at the top until the fruit is set and commences swelling.



This prevents the deposition of moisture on the blossoms and insures a good set. Fertilise the flowers daily, and when sufficient are set and the fruits swelling of about equal size remove all flowers, and keep the growths thin and well stopped, maintaining a warm moist atmosphere, but not stagnant, by early closing with sun heat; sprinkle the foliage on fine afternoons, and afford water in bright weather about twice a week.

#### THE FLOWER GARDEN.

*Staking Border Plants.*—Asters and Stocks of tall growth, miniature Sunflowers, Shirley Poppies, and a few other border plants are liable to fall about and much of their beauty be destroyed unless they are staked in some way. In some instances light straight stakes of well-preserved winter prunings from Apple and Pear trees answer, one being placed to the centre of each plant, and the latter secured to it by means of raffia ties. Much-spreading plants can, however, be effectively staked by means of either birch or hazel spray, much as Kidney Beans are often supported in pots. This plan answers particularly well in the case of spreading Carnations, and if done neatly there will be no breaking away of the flower stems. Bundling the stems of border plants, including herbaceous Sunflowers and Michaelmas Daisies, together gives them a very unsightly appearance, and this can be obviated by a judicious use of short pea stakes. Much depends upon when this important work is done, as should the plants once be allowed to fall about they are not easily straightened again and staked.

*Sweet Peas.*—These must be kept well together by means of good ordinary pea stakes, and if properly attended to should continue to flower freely until severe frosts intervene. One principal cause of early collapse is allowing the plants to produce a heavy crop of seeds. Not only is it a good plan to cut the flowers freely for house decoration, but the seed pods ought also to be kept closely gathered. If it is necessary to save seed, then reserve a few clumps in separate colours if possible expressly for the purpose, no early flowers being cut from them, and net closely to save the seeds when ripening. Birds have a great weakness for Sweet Peas, and in many gardens they cannot be saved without the aid of a double fold of light fish netting. The rows and clumps generally ought to be heavily mulched with strawy manure, or if this unsightly with shorter manure faced with garden soil, an occasional thorough soaking of water or liquid also doing much good in dry weather. Sweet Peas are such a beautiful and serviceable class of plants that they merit all the trouble taken with them.

*Dahlias.*—These are somewhat late in flowering, the first flowers, as a rule, only just showing colour. Plants confined to one strong single stem are the most effective, and are also to be preferred for producing exhibition blooms. Place a strong, tall stake to each plant, secure the central stem to this and allow it to branch freely. If exhibition blooms are desired thin out the side branches, and also remove the buds and flowering shoots from around the central buds on each reserved branch, stakes also being placed to some of the strongest of the latter. The plants require abundance of water and liquid manure, thorough soakings and not mere dribblets being necessary. Some contrivance for shading the blooms is needed, otherwise the colours will not stand till the centre is well "up." Earwigs are frequently very destructive among double Dahlias, and in order to entrap these either adopt the old fashioned plan of placing dry moss in flower pots, inverting these on the stakes just over the plants, or else place lengths of Broad Bean stalks among the branches. The earwigs will collect in these dry places, and can then be destroyed.

*Gladioli.*—Seldom have these started more strongly than they have done this season, and fine flower spikes should be plentiful. Each should be early staked, the ties being so arranged as not to cramp the leaves or check the straight growth of the stem. If not required for exhibition allow the spikes to branch and flower as much as they will, but should exhibition spikes be wanted early remove side shoots, carefully stake, and shade the lower flowers on the spike. If two boards, 18 inches long and 5 inches in width, are nailed together V-shaped fashion, and attached to a fairly stout stake, and one of these made to enclose each spike, a good face will be given to the flowers, and a ready means of shading afforded. Unless the lower flowers are shaded they will fade before many of the upper ones open, a short poor spike being the consequence. Pass a sheet of newspaper round the boards, and gradually raise this according as the flowers open. Should the weather be hot or dry the plants to produce show spikes must be mulched and freely watered, liquid manure further improving the size and colour of the flowers.

*Campanulas.*—If the plants of *C. medium calycanthema* are not soon put out on a sheltered border they will not flower very strongly next summer. Crowding them in any stage of growth is a great mistake. Those to flower in the open may be arranged 18 inches apart each way, but double the number of rows and plants in the rows may well be put out, many being potted up late in the autumn or early next spring, and the rest of the thinnings be transplanted to other borders or beds. They are remarkably attractive either in pots or in the open ground. Old plants that have flowered strongly will give yet another display this summer, soaking rains having benefited them, but they must have all the old flowers and seed pods picked off at once.

*Violets.*—Those put out on fresh ground this season ought now to be growing strongly, and on moisture-holding soils will require no further assistance from the watering pot. On quickly drying ground with perhaps a gravelly subsoil they are very liable to red spider, and the plants in this case may require to be frequently syringed in the evenings of sunny days, a little flowers of sulphur being mixed with the syringing

water being a good preventive of red spider. A mulching of leaf soil, spent tan, or decayed manure is of the greatest assistance to Violets on hot soils, a thin surfacing of either nitrate of soda, common salt applied in showery weather doing much to keep the ground cool, and also acting as a fertiliser. The ground about Violets generally should be kept free of weeds, that unmulched being occasionally stirred with a Dutch hoe. None ought to be allowed to form runners, as these will quickly smother the parent plants and produce but few flowers. The strong clumps of old plants should be trimmed round and cleared of runners the same as Strawberries are treated, much stronger flowering crowns inevitably resulting.

#### PLANT HOUSES.

*Chrysanthemums.*—Cuttings taken from tops may be rooted at once in cold frames. The large flowering varieties are invaluable for decoration in 3-inch pots with one bloom each. Small free flowering varieties are best inserted a number together in 5-inch pots. When rooted harden and stand them outside, and treat them the same as the general stock. Bush plants are producing buds and branching freely, but those not required should be removed, and the shoots disbudded at once. The number of blooms required must be decided as the work proceeds. If good blooms on bush plants are needed it will be necessary to take the next bud that forms on the shoots that lengthen after this date. Free flowering varieties of any section that are required for decoration and cutting may be allowed to branch naturally from the present time. These give a bountiful supply of useful flowers. Feeding will need attention, and strong applications must not be given; they do more harm than good. Strong stimulants burn the roots, and the blooms lack depth, that is so essential in a well formed flower. Keep standards growing on single stems well tied to their supports, all buds that form after the first week of August being taken for yielding blooms. It will be necessary to "take" any that are missed on the terminal bud.

*Salvias.*—Where these are grown in pots place them in their largest size at once and pinch all shoots that need it, allowing them to grow naturally afterwards. From this time these plants will grow rapidly, and the main shoots must be secured to stakes as they extend. For late flowering *S. gesneriflora* is decidedly the best. Its blooms are of the brightest colour, they last on the plants a long time, and also in a cut state.

*Deutzias.*—These will have lengthened out their shoots where they have been assisted indoors by gentle heat. Select an open sunny position outside where they can ripen and harden their wood. If possible plunge the pots to save watering.

*Solanums.*—Be careful to keep these liberally supplied with water, or the foliage will turn yellow. Soot water in a clear state is beneficial. Where the plants are grown in frames admit abundance of air, and berries will form freely.

*Libonias.*—Plants that have been kept under glass until now and are as large as may be desired, may be stood outside fully exposed to the sun. This will harden and ripen their wood, without which they will not flower freely. Do not pinch their shoots again, as they branch freely under cool treatment.

*Bouvardias.*—Strong shoots that are springing up from the base of those raised from portions of root must be stopped. These will soon break again, and other shoots will be induced to spring from the base. Plants required for early flowering must not be stopped again. Late plants may have their shoots pinched for the last time.

*Roses.*—All Hybrid Perpetuals in pots needed for forcing should be potted at once. Those that have made good growth in small pots may be placed into larger without disturbing them further than is necessary to remove the drainage. The fresh pots should be clean and carefully drained, and the soil pressed firmly into them. All plants that are in pots as large as are required may be turned out, the roots reduced by one-third, and replace them in the same sized pots. Use for a compost good fibry loam, one-seventh of manure, one 6-inch potful of bone meal, and the same quantity of soot to each barrowful of loam. Sand should be added freely if the loam is heavy; if light one-seventh of clay may be dried and reduced to powder and mixed with the loam. After potting stand the plants in a shady position for a fortnight. When they have commenced forming roots afresh plunge them in an open sunny position. Water with care, but syringe freely to keep the foliage fresh. Tea varieties may also be potted, but add one-third of leaf mould to the compost for these.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### BEEES AND THE WEATHER.

THE week ending July 20th was to northern bee-keepers one of expectancy and disappointment. The temperature was all right, being 62½° mean, but the drought was by far too great for the secretion of honey, although flowers are in great profusion.

#### WORK FOR THE WEEK.

Hives were dressed as they are to stand at the Heather to avoid bees mistaking their own, and thus preventing the loss of bees as



well as of queens, which is sure to take place when stranger bees enter the hive. While I was manipulating, destroying queen cells, and dividing swarmed hives, combs amongst those hives not filled with comb contained many queen cells built horizontally, and numerous sealed-out combs of honey in the under division. This arose through the great loss of bees during spring and up to June 8th. By that time their stores of honey became nearly exhausted. The bees confined their breeding to the upper storeys, so that when the honey came they were compelled to store it beneath—a sufficient explanation of the inverted state of matters. The crossed Punics had double the quantity of newly gathered honey of any other variety. With several swarms joining we had a number of queens killed, but with the exception of a swarm from a neighbouring apiary I managed to get the bees to return to their original site, and kept them there by supplying them with a frame of brood containing a ripe queen cell. The loss of an aged queen under these circumstances is rather a gain than otherwise.

#### EXPERIENCE.

In case any of your readers may think I write theoretically and without practical knowledge, I may tell them that my experience covers fifty years. At that time I was a mere lad, and kept a hive as other people did, and for ten years made little progress further than making wooden in lieu of straw hives. About that time I made my first frame hive, although I had neither heard of one, nor as yet had I read a work on bees, the first bee literature being found in the *Cottage Gardener*.

#### SUPERING.

Keeping bees out of supers was never any trouble to us. Scotch bee-keepers know how to do that very well, but how to produce the spotless and rounded combs that did not run up the Stewarton bee-keepers was a puzzle and a study. My first attempt to effect this was by making horizontal passages in the crown of the hive, bringing the bees out from the regular openings to the outer edges where they entered the super. This contrivance not only prevented the queen ascending, but the combs were built and rounded off without being attached to the hive. With the introduction of the frame and single bars to my hives I effected the same results as with the horizontal tunnels.

#### COMB FOUNDATION.

In the autumn of 1862 I paid my first visit to Stewarton and all the leading bee-keepers of the district. There I introduced a piece of the first Scotch made foundation, and learned that the principle I had been working my hives on was similar to the Stewarton, and that I, like "A Renfrewshire Bee-keeper," discovered they had the top bars of their hives wider than the bees naturally build their combs, and that we both were ahead of the Stewarton people in that respect. As comb foundation was of greater importance to me than anything I saw or learned at Stewarton, I confined myself to the various methods of fixing it to bars in hives and supers, interchanging ideas on the subject with the late Mr. Alfred Neighbour. Being a tradesman in the joinery, cabinet making, and smith business, I never considered I had invented anything very meritorious, but what I did came handy to me. Had I patented what is now patented by others, or advertised as being the "first to make foundation in Britain," I think it would have had more effect than being "the first to import a machine" about fifteen years after they had been made and successfully used in this country. In 1874 or 1875 leading members of the B.B.K.A. appealed to me for instructions how to make foundations. I gave the desired information, but when two of them visited me in 1875 they pronounced them a failure. At that time I had several hives standing upon two cross pieces of wood notched into each other, being part of a model engine and lift. Not long afterwards it was proclaimed as an idea of another, and the best stand in use.

#### EXCLUDER ZINC.

This has been in use since about 1872 to my certain knowledge, but I cannot say who was the first to use it. Shortly after that

date I had sent me from Mr. A. Neighbour a round-holed excluder. For several years I gave both the round and long-holed a fair trial. The bees with it did not enter the supers freely, and sometimes the honey flow was past before they did. The work of propolis-ing I considered was equal to the loss of from 10 to 15 lbs. of honey-comb, and the comb bereft of its purity; besides by opening up the whole crown of the hive fewer bees went to work outside. These are some of my objections to excluder zinc. Heavily laden bees have a difficulty in getting through the narrow perforations, and if wide enough queens enter also, and when drones are bred the supers become objectionable. The following is what Mr. Abbott wrote in 1875:—"We do not advocate the use of narrow slits or perforations, because sometimes queens get through them into the supers and breed drones, which die and rot there." Then speaking of whether the brood nest shall be filled with brood or honey and pollen, he said, "If honey the queen's power will be restrained; if brood the perforations will be unnecessary.—A LANARKSHIRE BEE-KEEPER."

JUDGES AT THE CALEDONIAN APIARIAN SOCIETY'S SHOW, 1875.—My contention was, and is, that the statement of "Lanarkshire Bee-keeper" on page 32, that I was one of the Judges at the above Show was incorrect, and the list of judges you gave from the schedule before you bears out my assertions. In the report of this Show, from which I cited on page 55, Mr. Abbott was given as the referee. If he acted as one of the Judges it would be in the honey classes, as he did in 1876.—JOHN M. HOOKER.

[We are glad that Mr. Hooker is satisfied with the schedule. His name is not mentioned in it, but Mr. Abbott's is, as one of the Judges, and there is no allusion to a "referee." We are bound to regard an official schedule as more authoritative than a newspaper report.]

#### TRADE CATALOGUES RECEIVED.

Vilmorin, Andrieux, et Cie., 4, Quai de la Mégisserie, Paris.—*Catalogue of Plants and Strawberries*.

John Peed & Sons, Roupell Park Nurseries, Norwood Road, S.W., and Mitcham Road, Streatham.—*Catalogue of Bulbs, 1891*.

W. Cutbush & Sons, Highgate.—*Catalogue of Bulbs for 1891*.

G. Bunyard & Co., Maidstone.—*Catalogue of Roses, Strawberries, and Summer Fruits*.



\*\*\* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Treatment of Nepenthes (G. W.).**—The plants are probably becoming old and somewhat exhausted, and the best plan at the present time would be to remove the sour compost, supplying fresh, and give the plants stove treatment. Continue this during the winter, and in early spring cut the plants down, as the upper parts of the stems will root quickly in light compost of peat and sphagnum if shaded and syringed frequently.

**Eucharises Unhealthy (B.).**—The bulbs sent are undoubtedly infested with the Eueharis mite, and the only course is to remove all the plants that appear to be attacked and subject them to a thorough cleansing process. All the soil must be cleared away, the diseased portions and loose pieces of skin cut off, and then wash the bulbs thoroughly in warm water, softsoap, Fir tree oil, or petroleum. Clibran's Eueharis mite killer, advertised in this Journal, is also said to be useful for the same purpose. Be careful to remove all the old soil to a distance or burn it, and obtain fresh when the bulbs are repotted.

**Manure for Pea-sick Soil (S. Y.).**—To your "black soil of a sandy and stony nature, with marl added in places, on gravel," apply, in addition to the usual dressing of stable manure, say 20 tons per acre, superphosphate of lime 2 lbs., kainit 1 lb., mixed, per rod, at the time, or a little in advance of sowing the Peas. When fairly up dress



the ground with  $\frac{1}{2}$  lb. nitrate of soda per rod, repeat in about six weeks, and again when flower buds first appear on the haulm. If the Peas are sown in autumn apply the kainit and use steamed bonemeal instead of the superphosphate, but do not use the nitrate of soda earlier than March. You may also try the following: Sulphate of potash 2 lbs., sulphate of ammonia 1 lb., mixed, per rod, applying it early in April. We presume the summer crops are mulched and well watered in dry weather, and that late crops are sown in trenches prepared as for Celery.

**Peas Withering (D. W.).**—The dead haulm you have sent is seriously infested with fungus, and this no doubt first attacked the lower part of the stems. We have previously said that neither the cause of the visitation nor a reliable preventive of it, or remedy for it, appears to be generally known. At the same time we do not know to what extent those fungicides of which copper and lime are the active agents have been tried, and with what results. Different forms of anti-blight of the nature indicated have been recently alluded to in our columns, and at least one of them advertised which we believe is good. It is, however, only by applying them in good time that they have a fair chance of accomplishing the object in view. We suspect your soil is deficient in some requisite for healthy growth. Potash is a necessity of Peas. Moreover, some varieties are more prone to fail in some soils than others, and we have seen productive and worthless rows side by side. In gardens where early crops succeed and later fail, it is prudent to sow in trenches for the latter, prepared as if for Celery, using wood ashes or burnt vegetable refuse with the manure employed. In some ground the trench system is not requisite, but we know of gardens in which there would be no good crops of Peas after June by sowing in the ordinary way and earthing up the rows. See a reply to another correspondent.

**Enriching Soil for Strawberries (J. F.).**—As you cannot obtain good stable manure, and have no sewage which you can apply to your light soil, perhaps the simplest method will be to procure some guano, guaranteed to contain not less than 8 per cent. of ammonia and 20 per cent. of phosphates. The light soil should be compressed after digging, and the guano may be used in solution at the rate of a pound to 20 gallons of water, and half a gallon poured on each square foot of surface where the plants are to be grown, also subsequently at weekly or other intervals as the state of the plants and weather suggest. One good watering is more effectual than ten mere sprinklings. Liquid manure should not be applied to very dry soil, but this should always be previously moistened with pure water, then the virtues of the liquid that follows will be better retained for the support of the plants. The surface of the ground should be mulched with whatever you can find to cover it with in dry hot weather. Soapsuds are good for Strawberry beds. We have seen hundreds of gallons used with the best results.

**Peach Leaves Spotted (D. H.).**—There is nothing in your letter that suggests to us the cause of the misfortune in question. You do not, however, say whether the house has been recently fumigated. Much injury is done to Peaches every year either by injudicious fumigation or inferior materials. The best kinds are advertised. The leaves before us are thin in texture and covered with specks, suggestive of the house having been kept too close and the sun shining on the leaves while they were wet, before the moisture was dissipated. When the spots occur fungus is almost certain to take possession of the injured parts, as in the case before us. You might try dusting with sulphur or anti-blight, and at the same time afford the trees support with liquid manure. In the autumn new fibrous roots should be induced to form abundantly, as they will if some of the old soil is removed, the strong roots cut, and good turfy loam, with a liberal admixture of lime rubbish and wood ashes used in its stead, and made firm and kept moist. Trees in perfect health (and many trees that make strong growth are not) resist various attacks to which weaker succumb, but in your case we suspect the condition of the leaves has been brought about either by fumigation or syringing too late, then keeping the house closed all night, and not admitting air soon enough in the morning. One mistake of this nature is sufficient to cause the spots, though they would be obscure at the first, and perhaps unobserved for some time. They increase with the growth of the fungus that follows, and often destroys the leaves.

**Thrips on Plants (T. F.).**—The specimens of *Torenia* were quite shrivelled, and the insects presumably shrivelled with them. There is only one way of extirpating insect pests, and that is by perseverance in fumigating, syringing with insecticides, and cleanliness. Early action is a golden rule to follow. It is better to prevent than destroy. Too often when only a few insects are seen it appears to be thought they are "not worth wasting tobacco or insecticides over," and therefore more insects are waited for with the object of having a great slaughter. It is a great and costly mistake. A small invading army is obviously more easily conquered than a large one. We do not think you ought to have let your *Gloxinias* be ruined. Had the pots been plunged in a damp medium or stood on a moist base, and the house lightly fumigated at intervals without waiting for the insects, the plants if grown in a genial atmosphere and somewhat shaded position might have been kept clean. On admiring the cleanliness and luxuriance of *Gloxinias* and other plants in the nurseries of Messrs. Sutton & Sons, Reading, recently the attendant was asked how he dealt with insects. His reply was significant and full of sound sense—namely, "We just burn a Lethorian cone now and then in the houses for keeping insects out of them." If the insects had been admitted first and allowed to increase perhaps ten times more cones would have to be used for destroying them, and at the same time the plants must have been seriously injured. Your former letter was not received.

**Selling Lavender (A. W.).**—Where Lavender is grown in small quantities it is difficult to find a market for it in any form. Distillers prefer to purchase from the large growers, as they obtain a more uniform sample. The only chance would be to sell the flowers in local markets or shops, and then the price would necessarily be moderate. It is always difficult to sell products of this kind in small quantities except in districts where the culture is made a specialty and which is known to dealers. In the neighbourhood of stills small quantities can also be disposed of to better advantage, as pointed out in the article you refer to, which also gives the size of the market bunches as dispatched from the Surrey districts.

**Mushroom Spawn Bricks (J. R. A.).**—There are some things that cannot be taught on paper, making a watch, for instance, but can only be learned by experience. We print your questions—namely, "How to know when a Mushroom brick is full of spawn all through instead of on the surface without breaking the brick, also when to take a heap down when inoculated to prevent it spoiling?" If any of our readers can make the information you need intelligible we shall have a very high opinion of their teaching power. For ourselves we may admit that we only ascertained the internal condition of the "bricks" by breaking a few in our experimental days, and if you have a "heap" of them surely you can afford to test the condition of the bulk by breaking one or two as samples. We have more than once said that the bricks should not lie flat one on the other when covered with fermenting material for spreading the mycelium, or most of it will be on the outside. You had better describe the manner in which your heap has been packed, and how long it has been covered, then we shall better understand the case, which is at present somewhat obscure.

**New Zealand Apple (F. Cooper, Wellington).**—The outline and description of your Apple suggest the possibility of its being Adams's Pearmain, and in order to enable you to judge for yourself Dr. Hogg's description and opinion of this Apple is cited from the "Fruit Manual":—"Fruit varying from 2½ inches to 3 inches high, and about the same in breadth at the widest part; pearmain-shaped, very even, and regularly formed. Skin, pale yellow, tinged with green, and covered with delicate russet on the shaded side; but deep yellow tinged with red, and delicately streaked with livelier red, on the side next the sun. Eye, small and open, with acute erect divergent segments, set in a narrow, round, and plaited basin. Stamens, median; tube, funnel-shaped, sometimes conical. Stalk, varying from half an inch to 1 inch long, obliquely inserted in a shallow cavity, and generally with a fleshy protuberance on one side of it. Flesh, yellowish, crisp, juicy, rich, and sugary, with an agreeable and pleasantly perfumed flavour. Cells, obovate; abaxile. A dessert Apple of first-rate quality; in use from December to February. It is a very handsome variety, and worthy of general cultivation. The tree is a free and healthy grower, producing long slender shoots, by which, and its spoon-shaped ovate leaves, it is easily distinguished. It is an excellent bearer, even in a young state, particularly on the Paradise or Doucin stock, and succeeds well as an espalier." It is also known as the Hanging Pearman, Norfolk Pippin, and Lady's Finger. The fruit may possibly be brighter in colour in New Zealand than in English gardens and orchards. Your pleasant references are appreciated, and in fancy we stretch our "hand across the sea" for a friendly grip with yours in the land of your adoption.

**Manufacture of Superphosphate of Lime from Bones (Wellington, New Zealand).**—In making superphosphate the bones are often broken into quarter or half-inch portions. This is because the user wishes to see for himself that bones have been employed in the manufacture. That practice, however, is not best, for the calcium phosphate is only partially acted upon by the sulphuric acid, and the soluble phosphate diminishes in the superphosphate by keeping. Superphosphate is best made from ground bones by placing the meal in a tub along with water and sulphuric acid in the following proportions by weight:—1 lb. bone meal,  $\frac{3}{4}$  lb. water, and  $\frac{3}{4}$  lb. sulphuric acid. Place the meal in the tub, add the water, mix, then add the sulphuric acid, and stir. Perhaps you wish to dissolve ordinary bones. In that case let them be dry, and if broken up roughly all the better. Place them on a hard earthen floor, having taken an account of their weight, and surround them with a rim of ashes, which must be fine. Sprinkle with water, or if a large quantity, pour on the bones as much water as they will suck up, then pour on two parts of sulphuric acid to five parts of bones. It will boil violently for a while, and when this has subsided the mass will get tolerably solid. The ashes may then be mixed with the dissolved bone, shovelling all up together, and in two or three days it will be dry enough for use. The proportions are 5 lbs., or cwt., of bones, soaked with as much water as they will absorb, and 2 lbs., or cwt., of sulphuric acid. This is an excellent preparation. Another, but slower, is to take a large hoghead, quite watertight, and cover the bottom with 6 inches of dry earth, and on this place a layer of bones 6 inches thick, and cover them entirely with wood ashes; on these another 6 inches of bones, then ashes, and so on until full. Leave the hoghead or barrel all summer and winter exposed to the rains, and in twelve months the bones will crumble to powder under a slight pressure and form a valuable manure, especially for fruit trees. Fermented bones are easily prepared by mixing raw bones with clay, forming into a heap, using about equal proportions of clay and bones, watering the mixture with urine or stable drainings, protecting the heap from rain by a covering of damp clay, but otherwise exposed to the atmosphere, the stable drainings being poured in through holes at the top. In a few months they will be sufficiently cooked. This forms an excellent top-dressing.





WHEN held in conjunction with local or other horticultural shows it is evident that conferences and discussions upon appropriate topics afford additional attractions of considerable interest, and can also be rendered the means of disseminating much useful information. If any doubt existed upon this point it would have been effectually dispelled by a visit to the Conference, arranged by the British Fruit Growers' Association, to be held in conjunction with the Beddington, Carshalton, and Wallington Horticultural Society's annual Show in Beddington Park on Monday last, August 3rd. More unfavourable weather could scarcely have prevailed, heavy thunderstorms, with torrents of rain, continued throughout the afternoon, yet a large and appreciative audience was secured, and the tent was crowded until the termination of the proceedings. In this respect, in the temperate and generous tone of the speeches, the practical character of the advice tendered, and the local interest awakened in the matter, the gathering must be chronicled as fully successful, and the promoters achieved the objects they had in view.

The special intention was to bring the subject of fruit culture before the numerous cottagers and allotment holders in the district, to point out to them the advantages that would result from due attention to the matter, the best modes of proceeding in the work, and the difficulties to be expected. It is obviously impossible to teach all that is requisite to success in one meeting of this kind, but when once the interest is awakened, and desirability of advancing is perceived, progress becomes comparatively easy, and plenty of willing helpers can be found to aid those in need of advice. In many rural districts the condition of the cottagers and labourers has been materially improved by the encouragement extended to their efforts in fruit and vegetable culture. Plenty of instances could be given where the fruit produce alone is made to pay the annual rent of the cottage, besides yielding a supply of fruit for home use, either fresh or preserved. Several speakers at the Conference in question touched upon this aspect of the subject, and its importance is fully recognised by all who are concerned in the welfare of the working population of rural districts.

Referring briefly to the proceedings at Beddington Park, it must be said that the Chairman, Sir James Whitehead, Bart., dealt in his opening address with the subject of fruit culture most fairly and thoroughly. Special reference was made to the efforts of the Royal Horticultural Society, the Fruiterers' Company, and the British Fruit Growers' Association in the direction of inducing greater interest in the matter. A letter was read from the President of the first-named Society expressing approval of the active work of the Fruiterers' Company. The Chairman also pointed to the fact of his presiding at that meeting as a sufficient indication of his own goodwill towards the British Fruit Growers' Association, and he considered that they could all work in harmony for a common cause, either in combination or separately. He complimented the Association upon the work they had accomplished for so small an expenditure, and expressed good hopes for the future.

Turning to other matters, special emphasis was placed upon the desirability of avoiding anything of a political tendency in purely social questions of such a character. Much help could undoubtedly be rendered by landlords in planting fruit trees them-

selves, or in providing trees for their cottagers to plant, and by encouraging the latter they would also be improving the value of their estates. The cost of carriage to markets was also touched upon, and several serious anomalies were mentioned, notably in the heavy charges of cartage from terminal railway stations to the markets as compared with the rates per ton from station to station. Instances were given where the cartage rates by the railway companies are four or five times in excess of the ordinary carriers' rates, and it was mentioned that the recent re-arrangement of railway rates did not include cartage, so that much remained to be done in that respect.

So wide a scope did the Chairman cover in his address that some subsequent speakers confessed that he had left little for them to say on general topics, and Mr. T. Francis Rivers, who followed, confined his remarks to a brief consideration of the aspects of foreign competition in relation to home growers.

Then came Mr. J. Wright with "Object Lessons for Cottagers and Allotment Holders," upon which he discoursed in a lucid and practical manner, and, illustrated as it was by diagrams, the subject was brought before the audience in the best possible way. Time only permitted reference to Strawberries, Raspberries, and Gooseberries; but defective and correct methods of planting, pruning, and general culture were clearly indicated, and many useful hints given for the guidance of the inexperienced. In concluding he read a letter from a tenant, in which a simple method of dealing with the difficulties arising from planting fruit trees was mentioned, the custom being for the incoming tenant to pay a valuation for trees planted by the former occupier, or for the landlord to take them in the same way and then charge it to the new tenant. The plan had answered so well that it had raised the value of the land enormously.

"How to Encourage Fruit Culture amongst Small Farmers and Cottagers" was the next subject, which was taken up by Mr. G. Hammond, an extensive fruit farmer in Essex, and treated in a very thorough manner. The difficulties in relation to land tenure were pointed out, the necessity of securing the landlord's co-operation and consent was dwelt upon, also the desirability of adopting the custom of valuation for tenants' improvements for work of this kind. Continuing, Mr. Hammond said:—

"As to the amount of profit to be made by growing fruit, many wild and extravagant statements have appeared, which only tend to mislead and disappoint. I would not like to say that these statements were untrue, but I do say that it is not fair to draw inferences and make calculations based upon what must be manifestly abnormal results. What this Association has said and what it still maintains is this, 'That with a proper selection of sorts suitable for each district, together with careful and attentive culture, a reasonable return may be confidently expected, quite sufficient to justify many in incurring the necessary expense of planting.'

"Another obstacle seems to be the want of information amongst farmers and cottagers generally upon this subject. Some say, 'We would grow fruit if we only knew what sorts to grow, and how to plant and prune the trees.' I am glad to know that much has been done by this Association during the last three years, and also by the Fruiterers' Company to disseminate this information amongst these classes, but much still remains to be done, and it seems to be that one of the best means of doing this, by holding exhibitions similar to that held here to-day, and by taking advantage of these shows to hold conferences for the purpose of spreading reliable information respecting fruit culture.

"We are greatly indebted to A. H. Smee, Esq., and others for the promotion of this Show and Conference, and if many more occupying similar positions would manifest the same interest and arrange for holding conferences and discussions upon this subject in connection with local shows throughout the country much would very soon be accomplished. It would also be well if landowners and agents, stewards and bailiffs, gave more attention to fruit culture, and possessed themselves of information respecting it, that they might be able to advise such of their tenants as were desirous of entering upon it as to proper kinds to plant in their particular districts, and I am fully persuaded that landowners will find it to be distinctly to their advantage thus to encourage the growth of



fruit; and that whilst helping the tenants to hold their own in these times of agricultural depression, they are also increasing the value of their property. In the case of small holdings it has been often found that the fruit orchard practically secures the rent."

Concerning technical education the Rev. T. W. Sharpe, Her Majesty's Inspector of Training Colleges, said he felt certain that the introduction of a system of agricultural and horticultural training in schools in rural districts would readily be taken up by the Education Department. He rejoiced in the fact that the Surrey County Council could devote £15,000 per annum to purposes of technical education, and was sorry that the London County Council did not do something in the same direction. Sir James Whitehead said he had for some years advocated technical instruction in regard to agricultural and horticultural pursuits in rate and State supported schools. No doubt the Government would give certificates and prizes in these branches of instruction, in the same way as in the Science and Art Department.

A practical address on the preparation of the soil for fruit trees was delivered by Mr. Joseph Cheal, which cannot now be referred to at length. Mr. A. H. Smee followed with a few suggestions upon the renewal of old orchards and fruit plantations, and the business concluded with a hearty vote of thanks to the Chairman, proposed by Mr. Granville Leveson-Gower and seconded by Mr. Halsey of the Surrey County Council.

The Show in connection with which the Conference was held was remarkable for splendid collections of vegetables, fruit not being sufficiently grown in the district to make a display; but a few excellent collections and individual dishes demonstrated what could be done in that direction.—HON. SEC.

### HARDY FLOWER NOTES.

BRIGHTLY gleams the sun, parching are the winds, and dry as dust the sandy soil. Water is failing all round, and as we gaze upon the Solway at full tide we can to some small extent realise the feelings of Coleridge's "Ancient Mariner." The cool and showery period soon passed away, and the soil presents no trace of moisture. In a season such as this the grower of hardy flowers will realise how wisely given is the counsel to disturb as seldom as possible herbaceous plants in poor and light soils. Autumn planted flowers can barely hold their own, spring planted ones droop and languish, while those established for some years show their hardships but little.

How difficult a task have hardy perennials before them just now. The Rose scatters her charms in wildest profusion in garden and hedgerow. Hybrid Perpetuals, massive blooms of perfect beauty; Teas with buds of the most elegant form; Climbers covering walls and trees with sprays of bloom; Cabbage Roses and old-fashioned Roses of all kinds delight our eyes and load the air with perfume. The other day I visited an old garden where grow in lavish plenty great masses of old Roses, which must have been there for many long years, and which are prized and cherished no less than the newer flowers which also find there a congenial home. Little wonder is it that the Rose possesses so many legends and poetical associations. Some of these legends are so beautiful that it is hard to forego the pleasure of quoting them; but when flowers are few and far between and days are short some excursions into the legendary lore of the flowers may be more acceptable than at present when the garden is full of brightness. We hardy plantsmen are oftentimes accused of indifference to such flowers as these, but few of us are, I think, so wedded to our favourites that we cannot join in admiration for this regal flower. Indeed, we might all say as did George Eliot:—

"You love the Roses—so do I. I wish  
The sky would rain down Roses, as they rain  
From off the shaken bush. Why will it not?  
Then all the valley would be pink and white  
And soft to tread on. They would fall as light  
As feathers, smelling sweet; and it would be  
Like sleeping and yet waking, all at once!"

There are at present few finer or more beautiful flowers than a clump of the little *Erythraea diffusa*, a dwarf alpine or border plant, which is literally covered with its charming little bright rosy purple flowers, which seem to close about four o'clock every after-

noon. This is a beautiful little plant, having small bright glossy green leaves. It has been for a long time in flower, and has every appearance of remaining in bloom for a considerable time yet. It has been advised that this plant should have a moist position. This does not seem at all necessary, as it is growing freely with me in dry soil. One of my plants about 9 inches across has at least 160 fully expanded flowers open to-day. The flowers are small, but are of a fine colour.

The exquisite little *Mimulus cupreus* Prince Bismarck which I flowered last year is well worthy of the award of merit it received at the recent meeting of the Royal Horticultural Society. It has been in bloom with me for some three months this season, and has been much admired, especially by those who are sufficiently acquainted with flowers to appreciate the distinct advance in colour achieved by the production of this little plant. I grow it in a half-shaded position, and endeavour to give it a soaking with water now and again. It stood last winter without any protection, and is one of the best of our recent acquisitions among hardy flowers. Seed can be obtained, and I have found it come almost true, very few "rogues" coming among the seedlings.

*Iris juncea*, the Rush-leaved Iris, is still in flower, and can well hold its own with the Spanish and English Irises now so plentiful in our gardens. It lacks their varied hues and markings, but has a beauty of its own in its fine yellow flowers with a few narrow streaks of brown on the falls. I have seen this catalogued as synonymous with *I. lusitanica*, but this is an error, as they are quite distinct. *I. juncea* is a native of Algeria, and was introduced in 1869.

There are few more graceful plants in our gardens than the perennial Campanulas, many of which are now in full flower. The weather is not very suitable, however, as the strong sun soon destroys the bell-like blooms. There can hardly be a finer object in the garden than a well-grown plant of *C. grandis alba*. This year it is dwarfed by the absence of moisture, but in former years this Campanula has been most beautiful. It has fallen into comparative neglect from its habit of spreading freely and giving but few spikes of bloom for the space it occupies. The obvious remedy is to reduce the size of the plant. Like the biennial Canterbury Bells *C. grandis* will produce a second crop of bloom if the first flowers are picked off when past. Few of our garden Bellflowers have been so prolific of varieties as *C. persicifolia*, the Peach-leaved Bellflower, and numerous as are the varieties we can hardly have too many. Although it is nearly 300 years since its introduction it seems to be more popular than ever. It will be found that there is considerable variation among plants of the ordinary blue or white single varieties. Some are broader at the base or more open than others, and several minor differences may be seen by careful observation. There is no doubt that *C. p. alba grandiflora* is a grand plant, and I should not like to be without it, but it is not of such good form as the typical *C. p. alba*, and seems to me to be more like a hybrid than a pure form of *C. persicifolia*. I am writing this without precise knowledge of the origin of the plant, but I think the subject worthy of discussion. The foliage is certainly that of *C. persicifolia*, but to me the flowers seem to possess a different character. There are some large varieties of *C. persicifolia*, two of which are mentioned in the "Cottage Gardeners' Dictionary," and one of these I have in my garden. This has quite the character of *C. persicifolia*, but the flowers are much larger; *C. Hendersoni* is very fine just now, and *C. Van Houttei*, *C. soldanellaeflora*, *C. urticæfolia*, *C. u. alba plena*, *C. macrantha*, and a number of others are also well in flower. A half-shaded situation seems to suit most of these Campanulas much better than a sunny one.

One of the finest plants I observed last week in a very good collection of hardy flowers was a very superior form of *Aquilegia chrysantha*. It is well known that the Aquilegias are very inconstant from seed, and most of the plants of *A. chrysantha* in gardens have been raised in this manner, and are very inferior to the one I saw, which was a most beautiful plant with large flowers. It had come from a garden in Kirkcudbrightshire, where it had been grown for a long time. It is one of the good plants we see now and again which are difficult to obtain.

The Alstroemerias are coming well into flower, and are valuable for the garden and for cutting purposes. The following prove hardy with me if planted deeply, and with the ground well prepared:—*A. aurantiaca*, *A. aurea*, *A. peruviana*, *A. chilensis*, *A. violacea*, *A. Errebaulti*, *A. brasiliensis*, *A. psittacina*, and *A. sulphurea tigrina*. There seems a great deal of confusion in the nomenclature of the Alstroemerias, and it is difficult to separate the species from the varieties. Mr. Baker's monograph does not seem in entire agreement with the names I have for those in my garden, but they are distinct enough for garden purposes. Some varieties of *A. chilensis* and *A. peruviana* are offered under distinctive names, and some of these are sufficiently distinct to



grow by themselves. I think no one with a moderately light soil need fear to grow the *Alstroemerias* provided deep planting is practised.

Some of the *Spiræas* are at present attractive, and none is more so than *S. Aruncus*, which, when in full flower, is most beautiful and effective with its feathery plumes of flowers and bright foliage. There seems to be some slight variation in this *Spiræa*. In a good garden the other day I saw plants which were nearly past, and which the gardener assured me always flowered about a fortnight earlier than the others, which were in a similar position. There was also a larger *Spiræa*, which seems like a form of *S. Aruncus*, but not so white nor so feathery. This had come from an old garden in the same neighbourhood, where it had been for many years, and where I saw it the same day. Can these be the two named in the "Cottage Gardeners' Dictionary" as *S. Aruncus*, introduced from Siberia in 1633, and *S. a. americana*, introduced from North America?

But I must now draw to a close, not through lack of flowers to treat of, but lest the Editor should deem these notes too long, for Shirley Poppies of lovely colours, golden *Oenotheras*, stately *Verbascums*, and many others, withstand the drought, delight the eye with their beauty, and tempt me to write in their praise. Through a printer's error the last word of the first line of the quotation from Thomson's "Seasons," on page 16, was printed "swells" instead of "smells."—S. ARNOTT.

### GOLDEN SHRUBS.

THE present is the "golden prime" of the shrubbery now that its colouring is at its brightest, and the delicate contrast between the old and new growth most apparent. It is therefore a good time to look around and make notes for the next planting season. My remarks were first inspired by the sight of a glorious mass of Golden Yews lighted up by a gleam of bright sunshine, and backed by the rich dark green of the common Yews growing behind them; the sight confirmed an opinion which has been growing for years, that our old friend is still the finest Golden Conifer we possess, in spite of the numerous introductions of recent years.

Some of our golden novelties are, no doubt, very beautiful, especially in the young state, but the tendency of *Cupressus*, *Retinosporas*, and others is to grow scraggy as they become older, and instead of improving, to become blemishes in the garden and require replacement. Then, again, in point of hardiness our native is far more dependable than the delicate foreigners, which, though they may stand a moderately low winter temperature fairly well, show unmistakeable signs after a bad spring that they do not agree with Kingsley in his affection for a north-easter. Another point in favour of the Yew is the impunity with which it may be transplanted up to almost any size, in which respect it has a great advantage over many other Conifers, notably *Cupressus Lawsoniana lutea*, which, though splendid in other ways, is a "terror" to move, and unless well prepared is almost sure to resent it by dying. I grant our old favourite is sometimes formal in shape, and owing to its slow growth in the earlier stages, somewhat expensive to buy. The first fault, however, lies with those most misused of all gardening implements, the shears; as because the tree will bear it without remonstrance all its beauty is in many places shorn off annually; while as to the second, well, all things go by comparison, and a good specimen Golden Yew, which is an ornament to any garden, and will perhaps go on improving a hundred years after the purchaser has left the scene, is a better investment than many rare plants costing perhaps ten times the money, requiring costly houses and men to grow them, and which the least error in treatment may cause to disappear altogether.—CHAS. E. PEARSON, *Chilwell Nurseries, Notts.*

### LILIES.

AN ordinary meeting of the Dewsbury and District Paxton Society took place on Wednesday evening, July 8th, Mr. Thomas Overthorpe, in the chair. The minutes of the previous meeting having been confirmed, Mr. Hepworth, gardener to E. T. Ingham, Esq., Blake Hall, read the following essay on "Liliums and their Culture."

"Fair as a Lily," "pure as a Lily," "beautiful as a Lily." Who has not often heard or used terms such as these to express their admiration for some beautiful objects? and who amongst us can gaze upon the newly opened flowers of many varieties of Lilies without confessing them both fair, pure, and beautiful? The Lily has been the theme of poets and historians from time immemorial, and if there has been one flower to compare with the Rose in popular favour it has surely been the Lily. It has long been associated with both the joys and sorrows of humanity, and at no period more

so than the present, when its chaste and fragrant flowers are eagerly sought for. Of exquisite beauty, delicious fragrance, stately habit, the colours ranging from the purest white through many shades to the most brilliant scarlet, crimson, orange, and purple, banded with gold or with ruby-like spots, in height from 1 to 10 feet, with flowers from 2 to 12 inches across, and in season from spring till late in the autumn, such is the flower, the merits of which we have to discuss, and on the culture of which it is my privilege to offer a few hints.

Lilies prevail throughout central and southern Europe, in the Alpine districts, the Caucasus, Asia Minor, through Siberia to



FIG. 16.—LILIUM WASHINGTONIANUM.

Northern China and Japan. A few fine species come from the mountains of India, whilst the United States, east and west, also contribute handsomely to the list. Botanists divide them into three groups—viz, the Archelirion, which includes all those with horizontal or drooping flowers, such as *L. auratum* and *L. speciosum*; the Eulirion, those with trumpet-shaped flowers, such as *L. longiflorum*; and the Isolirion, those with erect bell-shaped flowers, such as *L. croceum*, the old Orange Lily. For the purpose of this paper I propose to treat them under the two heads of hardy and half-hardy—those adapted for outdoor cultivation, and those best grown in pots, because although the majority are said to be hardy, and may be so in well sheltered places in the south and west of England, yet we can scarcely expect to grow many of the best varieties out of doors in this district.

#### LILIES OUT OF DOORS.

The hardy Lilies are pre-eminent amongst herbaceous perennials, and when planted under proper conditions none gives less trouble to the grower. The best possible place for most of them is in the



borders amongst shrubs where these are not too thick. The shrubs being mostly surface-rooting afford just the shade and shelter needful for the Lilies, without exhausting the soil beneath them, and their noble flowers are seen to grand advantage against the dark green leaves of the shrubs. They can also be grown in any ordinary flower border, and almost in any position if the soil is good, and if arranged according to their height—dwarf ones in front, tall ones behind—are very effective. Although the Lily naturally likes the shade yet it must not be planted under the drip of trees, and wherever they are planted they require good soil, so that their flowers may attain due size and substance. A cool, moist, and shaded soil in summer is highly beneficial, and it should be well prepared to the depth of at least 2 feet. Most garden soils if dug to this depth, and given a liberal dressing of good manure from an old Cucumber or Mushroom bed, along with well decayed leaves—real leaf mould—will suit nearly all the hardy Lilies. Good preparation of the ground in the first instance is essential, and should on no account be neglected, because most Lilies are impatient of being often disturbed, and do far better when left alone for years together. The bulbs must be planted three or more together, and 6 or 8 inches deep, and if the early part of the season is dry supply them occasionally with water.

All Lilies may be propagated by seed; some seed freely, others scantily, and the seedlings retain their specific characters, though they may differ in variety. Hybrid Lilies are almost unknown. Many persons have endeavoured to secure new Lilies by hybridisation, but nearly all have failed; in fact, the *Lilium* most stubbornly resists the intermixing of its species. To two Boston cultivators—Mr. Francis Parkman and Mr. P. Brown Hovey—belongs the honour of having raised the two finest hybrid Lilies extant, which they have named after themselves. Both are hybrids between *L. auratum* and *L. speciosum*; the first is like a deep red *L. auratum*, and the second like a deep red-banded *L. auratum*, and each one when expanded measures 1 foot across. I have not yet seen either of these Lilies in any English catalogue.

As it takes from five to eight years to grow a flowering bulb from seed it is not very much practised. The mode practised by Dutch growers, and also by our own nurserymen, is to take a large bulb and strip off a few of the outer scales; these are planted separately in small pots in good light soil, and the pots are plunged in slight bottom heat. They are sparingly supplied with water, and in the course of time small bulbs form round the base of each scale or clove. When these are about the size of peas they are carefully removed, potted separately in small pots, and commence life on their own account. This is only necessary with some sorts, as many of the varieties form small bulbs at the base of the stems, whilst in others, such as the Tiger Lily and *L. bulbiferum* they form in the axils of their leaves.

The hardest for outdoor cultivation is *L. candidum*, the Madonna Lily; this is an evergreen, and likes a rather heavier soil than most of the others, and not to be often disturbed. Another good one is *L. croceum*—the old Orange Lily. This is well known to everyone, and there are few plants which bear such a wealth of bloom as this with the same amount of trouble. *L. elegans*, or Thunbergianum, and its many varieties of scarlet, crimson, orange, and yellow; *L. davuricum* and its varieties; *L. chalcedonicum* or Turk's Cap, and its varieties; and above all *L. tigrinum*—the Tiger Lilies—these are amongst the most showy of the family. *L. tigrinum splendens*, when well grown, is a gorgeous flower, and seen at a distance looks almost like a ball of fire. There are other suitable varieties which can be had from any catalogue, and which I need not stop to specify here; in fact, the varieties are so numerous that an interesting and beautiful border may be formed of Lilies alone.

#### CULTURE IN POTS.

The requirements of Lilies growing in pots are neither numerous nor costly; in fact, there are few, if any, plants with flowers of equal value to these that can be grown so easily. Nevertheless, I am of opinion that they are not so generally, nor, on the whole, so well grown as they used to be years ago. It was almost impossible at one time to enter an autumn flower show and not find some well grown pots of the three or four varieties of *L. speciosum*, and sometimes of one or two other species. An old gardener of my acquaintance, nearing threescore years and ten, tells me that we do not know how to grow Lilies as they were grown in his young days. After making allowance for what they did in "the good old times," I think we must confess that Lilies have been neglected and pushed on one side of late years, with the exception of perhaps one or two varieties. If this is so, I am sure the fact only needs bringing under the notice of this and kindred societies, to have justice done to such a noble flower.

The most successful way of growing the majority of Lilies in pots is to treat them in as hardy a manner as possible in a cool

greenhouse or cold frame, merely keeping them at all times free from frost. The growth will be stronger, sturdier, and the flowers more lasting than if grown in heat, and the bulbs will suffer less deterioration. Some Lilies have a tendency to split, notably the new *L. Harrisii*, and where this is the case growing them in too much heat helps to aggravate the evil.

Amongst the best for pot culture are *L. auratum*, well known to all; *L. giganteum*, the king of Lilies; *L. longiflorum*, and its varieties *eximium* and *Harrisii*. Three or four varieties of *L. speciosum* are old pot favourites, and amongst newer varieties is *L. Browni*, white inside, striped purple outside; and *L. Wallichianum*, with white trumpet-shaped flowers, called the prince of the *L. longiflorum* section; *L. Humboldtii* (reddish orange) and *L. pardalinum* (orange red), two splendid Californian Lilies, and many others to be found in any good list. Take great care in the selection of the bulbs when purchasing, and particularly if they are imported ones. It used to be said that not more than one in six of imported *auratums* ever came to anything after arriving in this country, the reason given being that the Japanese growers, in their haste to catch the first sale in our markets, sent over immature and unripened bulbs. Whether this is still so I cannot say, but it would be well in the first place to buy from a reliable source; and in the second place not to buy too early in the season, as the later shipments will probably contain better and more matured bulbs. Having obtained the bulbs they must be potted forthwith, and must on no account be left exposed to the drying influence of the air in drawers or cupboards. They are scale bulbs of a soft and spongy nature, not solid like Hyacinths and Tulips, and suffer very much by exposure to the air.

They may be potted one, or three or six bulbs in 6, 9, or 12-inch pots respectively, according to fancy or accommodation. The month of January is a good time for potting them, and they should not be delayed later if it can be avoided. The time here stated for potting is for summer and autumn blooming. Those who want earlier flowers, say from spring onwards, must pot proportionally earlier, and grow the plants through the winter. The soil should consist principally of well decayed turf two parts, leaf mould one part, thoroughly decomposed horse manure one part, with a little rough sand and charcoal. For *L. auratum* and a few other species which require a lighter soil, two parts of peat to one part loam, or two parts thoroughly decayed leaf soil with a larger quantity of sand is generally recommended. The pots must be well drained, then cover the crocks with some of the roughest lumps of turf, following with finer soil, filling the pot about half full. On this place the bulbs, covering them slightly. When finished the soil should be left far enough below the top of the pot to allow for a good top-dressing later on. The pots may then be placed in any cool position under a stage, or plunged in ashes or tan or leaves in a cold frame, being careful to exclude frost. No water must be given them till the points of the shoots are seen pushing through the soil. Many Lilies are ruined by inattention to this matter, for if the soil becomes too wet before the bulbs have started growing they will most certainly decay, and time, money, and labour will be thrown away. On the other hand, when they have begun growing they must not be allowed to suffer for want of water, and must have plenty of light and ventilation. When the stems are a foot high the pots must be filled nearly to the rim with some good rich soil. This will cover the bulbs to a proper depth, and will also serve as a top-dressing, and for the roots which are emitted at the base of the stems to work in. It is a peculiarity of some Lilies that besides the fleshy roots which the bulbs send downwards in the pots, roots are also sent out by the stems just over the top of the bulbs; hence the reason why room should be left when first potting for the addition of more soil later on.

The system I have just sketched will be suitable to the majority of pot-grown Lilies, and most of them will start without further trouble; but *L. auratum* is sometimes difficult to start, particularly imported bulbs, and for them I should recommend a little different treatment. Plant the bulbs singly in 5 or 6-inch pots, using sandy peat or leaf mould, leaving the apex of the bulb slightly bare so that it can be easily seen when growth commences. They may be placed in a shady corner of the greenhouse or frame, giving them a gentle dewing with the syringe when absolutely necessary to prevent dryness, but on no account allow them to become wet. What there is to fear most is a species of fungus, which forms between the scales, causing them to decay; if the bulb is left slightly bare when potting this can be looked after and exterminated. A good preventive is a little powdered charcoal placed beneath the base of the bulbs, and also scattered amongst the scales when potting. When the shoots have grown a few inches they must be transferred to larger pots either singly or otherwise, and the roots buried in the same way as the others.

The more tender varieties may be grown and flowered under glass if required, but the hardier kinds may be hardened and stood



in a well sheltered place out of doors as soon as all danger of frost is past. The pots should stand on slates or ashes to keep out worms, and as the stems grow they will require tying to neat stakes to prevent them being broken by the wind. When the flower buds appear a little weak liquid manure given occasionally will assist them to swell, and so increase the size of the flowers. When they reach this stage some may go under glass again to forward their flowers, and for indoor decoration; others may be plunged in borders or beds outside, as is done in many of our parks and gardens, when they have the appearance of having grown there, and are very effective in flower garden arrangements.

When the plants have flowered water must be gradually withheld, and when the leaves turn yellow and begin to fall, lay the pots on their sides in any cool place free from frost till potting time comes again, when the old soil must be shaken away, the bulbs repotted and proceeded with as before.

Such in a short and simple way is the culture of Lilies in pots. Another way of indoor growing for those who have the means is to plant them in clumps amongst Camellias where these are planted out, and there let them remain from year to year, giving a rest as far as possible in winter by withholding water. This, of course, is only possible in cool houses, where the exclusion of frost is all that is aimed at.

The Lily can scarcely be said to have any distinct disease. There is a grub known as the Lily grub, which feeds on the leaves, and which requires to be destroyed by hand-picking. The cause and cure of "rot" have already been dealt with. The chief thing to avoid with those growing in pots is overwatering before the bulbs have begun to grow, and with those out of doors, to see that they have a moist but not stagnant bottom, as either condition induces decay of the bulb, and is fatal.

The introduction of many varieties into this country is interesting, and a knowledge of the parts of the world they come from is useful to remember in trying to cultivate any variety that is new to one. As we have already seen, Lilies are gathered from many parts of the world; but it must be remembered that they come invariably from the more temperate parts of the various regions, those from India coming from the mountains, and those from Siberia from the sheltered valleys. The oldest imported Lily I have been able to find is *Lilium candidum*, which came from southern Europe in 1596, nearly 300 years ago; *L. auratum* came in 1862, *L. speciosum* in 1832, *L. giganteum* in 1855; *L. canadense* in 1829; *L. davuricum* in 1745; *L. longiflorum* in 1862; and *L. Washingtonianum* in 1812. We have only to think of the great number of varieties now to be had, and then count how many are generally grown, to come to the conclusion that this beautiful flower has of late years suffered neglect. Now that Sunflowers and single Dahlias are on the wane, and most other popular flowers have had their day, and much further improvement in them seems uncertain, it is not too much to hope, that a larger share of the attention and love of florists may be bestowed upon these splendid and useful flowers. "He that has lost the love of flowers," says an old German writer, "has lost all fear and love of God;" and seeing that it is the love of flowers which has made us, and which keeps us members of this Paxton Society, I submit, in conclusion, that there are few which better deserve our care, or are more worthy of our love, than this king among flowers—"the Lily."

Mr. Hepworth resumed his seat amid applause, and a discussion on the subject took place, which was initiated by the Chairman, and continued by Messrs. Gledhill, Tranmer Goodall, Thompson, Bullock, and others, after which, on the motion of Mr. Thompson, seconded by Mr. Bullock, a hearty vote of thanks was accorded to Mr. Hepworth for his paper. Some fine specimens of *Lilium auratum* had been kindly furnished by Mr. McGowan, and were much admired.

[*Lilium Washingtonianum*, of which an engraving is given in fig. 16, is a native of California, attaining a height of about 4 or 5 feet, and bearing well formed flowers, white or purple tinted, spotted with purplish crimson. It is a beautiful species, and succeeds admirably in positions that are not too exposed to sun or wind.]

#### A VISIT TO NANCY.

WRITING this as I do in the heart of the Jura Mountains, 3800 feet above sea level, where warm underclothing is necessary, and a great coat is often found comfortable, I have by contrast a most vivid impression of the two sweltering days I passed in Nancy. Certainly it is a very hot place, or we were favoured at that time with unusual weather. I heard some talk of 100° in the shade, and it may have been something like it to judge by results. Paris was supposed to be hot at the time, but it was cool by comparison. Nancy is an easy place to reach if you keep the direct route, but wishing to visit Chaumont as well as Nancy, en route for Switzerland, I left the train at the latter place and

took the cross country line to Nancy via Mirecourt. The first result was a delay of four hours before a train left, and as those four hours happened to be from 12 midnight to 4 A.M., and the only accommodation to be had was a sofa in the *salle d'attente*, they naturally proved most uncomfortable. Troubles were aggravated by the amazing sounds emitted by the nose of an unconscious Frenchman who occupied the other sofa, and who slept, and snored, and choked himself, half awake, groaned, turned, went off again into the snoring and choking condition, until I found myself almost tormented into the wicked thought as a more awful sound than usual proceeded from him, "Well, now, I really think he is dead at last, and I shall have some peace." However he survived, and so did I, and four o'clock came at last, a lovely morning, hazy at sunrise, but clearing into brilliant sunshine by 8 A.M. Very pleasant and reviving was that early journey through the beautiful valley of the Moselle. All Nature was looking her very best, the corn just turning colour, one or two fields cut, hay saved but not ricked as with us, but mostly left in the fields in large "pooks." This was in the valley itself. The sides of the hills, which are bold and lofty, from 300 to 700 feet or more in height, were mostly clothed with the Vines from which the famous Moselle wine is made. Each plant about 3 feet high, and the plants themselves about 3 feet apart every way. I was struck with the thriving condition of all the crops as a rule. There were some weedy patches, but as a whole weeds were well kept under, and the Vines especially seemed to be well cared for in every way.

Nancy is a large, well built, thriving town; the streets wide, the shops and hotels good, the public buildings and gardens interesting and attractive. In such a climate in summer the population live mostly in the open air, cafés and restaurants abound; but although there was plenty of drinking (and who can wonder at it in such a temperature?) no cases of excess came to my notice. But my visit to Nancy was a visit in search of Begonias. Everyone who knows something of the history of the Begonia since its introduction knows also that the two leading horticulturists of Nancy have done their full share towards developing this favourite flower into its now magnificent condition. Giant strides in this direction were made in the early days of its history, when Nancy sent forth Gloire de Nancy, Blanche Paupierre, Comtesse H. de Choiseul, Antoinette Guerin, Gabrielle Legros, Mons. de Dumont, Madame Comesu, &c. Some of these even now hold their own. Gabrielle Legros I saw was being largely grown by Mons. Crousse as a market plant, but although useful in this way the flowers are too small to compete with the magnificent varieties since raised in this and other localities. A few of the most telling ones growing in quantities were Felix Crousse, dazzling scarlet; Mistress French, a noble flower, very double, and of a yellowish white colour; Notaire Dubbled, brilliant red, very free; La France, lovely delicate pink with silvery shade; Jeanne d'Are, a very good white; Triomphe de Nancy, straw yellow; Dr. Felty, rich scarlet crimson; Albert Crousse, carmine; Felix Mascotte, large, rich scarlet. I also had the pleasure of seeing several seedlings not yet named of sterling excellence—one a very large rich double yellow; another a pale blush, the colour of Malmaison Rose; another, blush white flushed with rose towards the centre. All these will in due course be put into the market with others, which space will not allow me to mention, and all will, I am sure, prove great additions to the collections of those who grow Begonias. Monsieur Crousse not being able to speak a word of English, and my French being not of the first order, Mlle. Crousse kindly acted as guide and interpreter; and in spite of the excessive heat a very interesting and pleasant tour was spent in passing up and down the numerous long beds filled with thousands of Begonias. All are growing in the open air, but every bed is protected from the sun either with a close lattice of woodwork nailed together on frames or canvas supported on stakes. The plants are all mulched with decayed manure and are kept well watered overhead. This is needful no doubt in a place where the sun is so ardent as at Nancy, but Begonias can be well grown in most parts of England treated as ordinary bedding plants. I should not like to say how many thousands of unbloomed seedlings of the year were planted out in nursery beds; very few of these were showing flower at the time of my visit (July 17th and 18th), but all were being treated as above and looked very promising. Besides Begonias Monsieur Crousse grows largely Ivy-leaf Pelargoniums, Zonal Pelargoniums, and Cannas.

The next morning I paid a visit to Monsieur V. Lemoine, whose grounds are situated just outside the town. A drive of a quarter of an hour brought me to the gate of a pleasant-looking villa surrounded with shrubs and flowers. Monsieur was at home, also his son, who speaks English well. Begonias here also are a speciality, and among the first things that attracted my attention was a large bed of Begonia Lafayette, a dwarf-growing variety with upright stout stalks and brilliant scarlet double flowers. As a bedding variety none surpasses this. The most interesting of all was a bed of Begonia Baumannii, a dwarf-growing species with rosy crimson flowers of fair size, single, and borne on rather long flower stalks; but the chief feature of this species is that it is scented, the perfume being something like that of a Tea Rose, very delicious. No doubt this variety is destined to be the parent of a race of scented Begonias, and thus the only thing lacking in the Tuberous Begonia will be supplied. Already Monsieur Lemoine has a large number of seedlings from this variety crossed with others, and considerable variation in colour is already manifested, while the scent is retained. Many beautiful double and single varieties similar to those previously described were found here also, the cultivation being conducted on the same principles as at Mons. Crousse's.

I hoped to be able to see Mons. Lemoine's grand and unique collection



of Gladioli raised by himself; but my visit was, I am sorry to say, too early in the season to permit of my seeing them in bloom. Many thousands of plants were being carefully cultivated and looked remarkably healthy. One of Mons. Lemoine's specialities is the Fuchsia. Many distinct and beautiful varieties have been sent out by this firm, among them La France, Nancy, Mrs. G. G. Hill, President Grévy, &c. Several thousands of seedling plants, unproved as yet, were just coming into bloom; all are planted in long nursery beds in the open air, a mulching of dung being placed over the roots of the plants and plenty of water being constantly supplied. Fuchsias treated in this way appear to do remarkably well in France. Not only here but in the gardens and parks of Paris and elsewhere standard and dwarf bush Fuchsias are used with great effect in combination with other plants. Although the sun was so hot, the foliage was green and the flowers most abundant. Zonal Pe'argoniums also constitute a feature at these nurseries; but, as Mons. Lemoine remarked, it is very difficult to get anything really new and distinct in this line except the name. Beds of Montbretias, Lantanas, Primula species, all claimed far more time and attention from me than I had at disposal, as after a hasty look round for the few minutes that remained before starting to catch the train I bid a reluctant farewell to my kindly French friends and made for beautiful Switzerland. Another long drawn out but pleasant railway journey *viâ* Epinal and Port d'Atiluri, through Vine-clad hills and smiling valleys, with a view here and there of the Saone River, brought me at length to the main line of the Chemin de Fer de l'Est at Vesoul, and a few more hours through the grand scenery which lies between the above town and Belfort onwards, landed me at Bale.—R. G. BEACHY.

### VIOLAS.

MESSRS. DOBBIE & Co., florists, Rothsay, have for some years past taken the Violas in hand in Scotland, and grown them well, their exhibits at Birmingham, London, and other places proving this clearly enough. I recently received from them a box of Viola blooms consisting chiefly of the more recently introduced varieties, and the size of the blooms and clearness of colours bore testimony to the suitability of the west of Scotland for the cultivation of these lovely flowers, and which are daily becoming more and more popular. I have been much pleased this year to see them grown in gardens where hitherto they were not allowed a place, and the cooler weather than usual of June and July has suited them admirably. In some places late planted-out Violas are dying off very much, and I wish again to urge the desirability of early autumn planting. The Viola will stand much hard weather if well established, and by placing young plants in their flowering quarters in October or early in November they get good root-hold before winter sets in.

Messrs. Dobbie & Co. have the sending out year after year of Mr. Baxter's new varieties, and have ample opportunities for picking up other new varieties worthy of note, so that their collection is really an extensive one of the best varieties. Amongst the blooms they recently sent to me were in whites, Countess of Hopetoun, a well known variety of dwarf habit, and our best white; Snowflake, thin in substance and of inferior form, but a showy bedder; Lady Dundonald, pure white with rayed centre, and a good bedder; Marchioness of Tweedale, a pure white with a tendency in hot weather to flush a little in colour; Blue Cloud is white with an edging of ultramarine blue, resembling Skylark in every way, but with a greater depth of margin; Joy is thin in substance and inferior in form, but very showy, white bordered and flushed with soft pale lavender; Annie King is a charming new light coloured variety, which will be sent out in the autumn, and this new variety received a certificate at the Midland Counties Pansy Show; Gipsy Queen is shaded and veined white and pale lavender, deficient in substance and form, but it is a flower which will have many admirers; Dawn of Day is a large flowered distinct variety, white with greyish lavender markings.

In yellows Bullion is one of the best yellows, deep in colour, bright, and an excellent bedder. Wonder is a light yellow with a deeper tinted centre, a really useful fine variety. Goldfinch is light yellow with an irregular margin of deep lilac, a beautiful variety. Duchess of Fife resembles Goldfinch, but with a brighter tint of colour in the margin and with white and yellow body colour. This is a new and lovely variety.

In blues Archie Grant was the leading one, a very fine variety. Of purple shades there were Pytho, the lower petals rich violet purple with lilac shading in the top petals, very fine form. Mrs. Bellamy, rich violet purple lower petals with a white margin to the top petals, of fine form and good substance. John Burns, rich rose-tinted violet charmingly blotched with white, distinct and of fine form. Cottage Maid, a lighter coloured flower than John Burns with more white in the blotches, a distinct and fine variety. Neptune, a superb variety in form and substance, and rich in colour, greyish white top petals, and the lower petals are of a rich violet tinted purple colour with a small light blotch in each. Lady Gertrude resembles Neptune in the markings and colour, but the body colour has more of a rose tint in it; a very fine variety. Queen of Scots is a Countess of Kintore style of flower, a white self with rich blue violet central blotch; a lovely variety. Evelyn is a Duchess of Albany style of flower, shaded mauve lilac centre, the lower petals bordered with grey, and greyish white top petals; fine form. Sunrise is a lovely variety of fine form and substance, shaded rosy plum colour, and veined with a lighter shade of colour. Ada Adair, shaded lilac tinted rose with a dark blotch and lighter top petals; a distinct pretty variety of good form. Beauty, deeper in colour than Ada Adair; a

bright charming flower. Mrs. Grant is a distinct variety, purple tinted rose coloured centre, the side petals grey tinted, and almost white top petals; a distinct variety of good form. William Neil is a distinct variety of a new shade of colour in Violas, soft lilac tinted rose, and very pretty. Columbine is white, with pale pink top petals and the same coloured margin to the lower petals; attractive and distinct.

In addition to the varieties I have enumerated from Messrs. Dobbie and Co.'s consignment of blues, York and Lancaster, Ethel Baxter, Spotted Gem, and others of their introduction should be in all collections. Lady Amory and The Mearns are both very beautiful, and Dean's True Blue is far away the best blue Viola known. Amongst yellows, Queen of Spring and Golden Queen of Spring are two very excellent sorts, and Golden Gem (Dean's) is a beautiful variety. Bridesmaid, another of Dean's seedlings, is of the habit of Countess of Hopetoun, and of a creamy white colour; and Dean's Mrs. John Pope is a very beautiful new variety. On the 20th inst. I received a box of shoots with blooms of several kinds of Violas, sent from Mr. J. McLeod, Chingford, Essex, to show that Violas can be grown easily and well near to London. The flowers were quite as fine as those from Scotland, and as fine as we can grow them in the Midlands. Violas can be bought now at such very cheap prices as to be within the reach of everyone, and I cannot too strongly recommend them for very early garden decoration, blooming as they do with early Tulips and Hyacinths, and continuing in beauty until late in the summer.—W. DEAN, *Sparkhill, Birmingham*.



### CATTLEYA DOWIANA AUREA (YOUNG'S VARIETY).

THE most recent issue of Messrs. B. S. Williams & Son's "Orchid Album" (part 108, vol. ix.) contains beautiful plates of *Odontoglossum Mulus Holfordianum*, *Cymbidium elegans*, *Masdevallia macrura*, and the handsome *Cattleya* named at the head of this note. Concerning this fine Orchid the following interesting particulars are given:—

*Cattleya Dowiana aurea* was first sent home by Gustav Wallis from New Grenada about twenty-three years ago, and Roezl, who afterwards found it, fixes the locality in which it grows some 600 miles distant from that of the typical *C. Dowiana*, which had been introduced to our gardens a few years previously from Costa Rica, by Mr. Skinner; but it was originally found about 1850 by the veteran Polish traveller and collector, Warscewicz, whose consignment of plants, however, arrived in this country dead. It had been the intention of Warscewicz to dedicate this fine *Cattleya* to the famous Mrs. Lawrence of Ealing, the most enthusiastic patroness of horticulture in her day; but in the *C. Lawrenceana* since discovered in British Guiana we have a very beautiful and distinct plant. This is dedicated to her equally interested son, Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking, Surrey, the President of the Royal Horticultural Society of England. *Cattleya Dowiana aurea*, although separated by so long a distance from the typical plant, with no intermediate station between, as far as is known, cannot lay claim to be anything but a geographical variety of it; but yet it is a superior form, and the one here figured must be allowed to claim first rank in the way of varieties. Its principal differences are in the rich clear golden yellow of its sepals and petals, and the amount of the same rich colour upon its lip. This variety originated with Reginald Young, Esq., Fringilla, Linnet Lane, Liverpool, who, when it flowered again last season, kindly sent it to us for depicting in the Album. We recently saw the plant, which was looking in the best possible order, and we have much pleasure in recording the fact that Mr. Young's plants are in the very best of health and condition.

This plant belongs to the Labiata section of the *Cattleya* family; it is an evergreen, of strong growth, with clavate stems and large, oblong, deep green leaves. The flowers appear soon after growth is completed in the autumn, and remain some few weeks in full perfection if they are kept from sprinklings from the syringe, or from damp of any kind. It grows naturally near Frontino, in the company of *Cattleya gigas*, and several apparent hybrid forms have appeared from amongst the plants imported from that neighbourhood; the best of these are *C. Hardyana* and *C. Maszaiana*. Several plants having similar markings have from time to time appeared, but none can equal *C. Hardyana* in the richness of colour or in the undulations of its crisp lip. *C. Dowiana aurea* requires to be kept dry and cool immediately after its growth is completed, and it should not be allowed to stand in strong heat until growth starts again, as we recently observed had been the case with one grower of these plants, who had half made growths



in the middle of winter. Such growths never can flower, and by such treatment it gets the character of being a shy bloomer, but which it does not deserve if the plant is carefully handled in the autumn and the winter growth is avoided. It enjoys an abundance of sun and light, and to obtain this we grow it in a basket, so that it may be hung up near the roof-glass, the basket being thoroughly well drained. The soil should be good fibrous peat and a little chopped sphagnum moss, mixing a few medium-sized nodules of charcoal with the soil during potting for the purpose of keeping it open; during the growing season it is a plant which likes a liberal supply of water, hence the necessity of providing ample drainage, for although *Cattleyas* like water they cannot long survive or keep in a healthy condition if it remains in a stagnant state about their roots. Propagation may be effected by division and by cutting through the woody rhizome, but this we advise growers to be cautious about doing, because more value is attached to a fine plant all of one piece than of several small plants which have been obtained by propagation; and these small plants so obtained oftentimes do not flower for years, as they cannot obtain the nourishment they had when on the old plant.

#### CYPRIPEDIUM ENGELHARDTÆ.

In part 6 of the English edition of the "*Lindenia*" plates and descriptions are given of the *Cypripedium* named above; *Odontoglossum Bergmanii*, one of the *O. crispum* group with heavily spotted flowers, and similar to *O. luteo-purpureum* in habit; *Aganisia ionoptera*, a graceful little plant originally described under *Koelensteinia*, but that genus is now sunk in *Aganisia*; it has long erect racemes of purplish blue and creamy flowers. The last plate is of *Phalenopsis speciosa*, which represents a fine variety, with deep coloured flowers of good size and form.

Concerning *Cypripedium Engelhardtæ* the following remarks are given: "We announced recently to the readers of the '*Lindenia*' the appearance of this new hybrid, and we are happy to be able to give them to-day the presentation, because we doubt not that they will share the opinion of those amateurs who had the opportunity of seeing it in flower in the month of May, and who have deemed it worthy to be placed in the front rank of this genus."

"That which gives a particular interest to the subject of hybridisation in the family of Orchids, the importance of which is not yet sufficiently recognised, is that the differences in the varieties employed as parents reproduces itself to a considerable extent in the offspring, creating very different forms conformably to the varieties chosen. The peculiarity promises to furnish an infinite variety among the hybrids, and particularly those of the genus *Cypripedium*, in which the varieties are so numerous that the Monograph recently published by M. Angiolo Pucci of Florence enumerates up to seventy for a single species—namely, *C. insigne*. It is precisely from this species that *C. × Engelhardtæ* has arisen, and the variety which has served as the seed parent is very probably the variety *Maulei*. The other parent is one of the best known and most appreciated species of the genus *C. Spicerianum*. This new hybrid is the third issue from this excellent cross, which has already produced *C. × Leeanaum* and *C. × Leeanaum* var. *superbum*."

"The character which clearly separates it from the other forms in the group, and which gives it a particular charm, is the brilliant golden yellow colour which covers the petals and the lip, and gives to the flower an exceptional splendour. The large dorsal sepal, which is reflexed at the base, as in *C. Spicerianum*, is finely speckled with violet-purple and traversed from base to summit by a median band of the same colour; it bears at its base an extensive area of clear green. The rest of the flower recalls rather *C. insigne Maulei*, except the colour, which is unique. *C. × Engelhardtæ*, like the majority of hybrids, is very robust and floriferous. We may also add that the flowers attain a superior size to the average of those in the *Leeanaum* group. We have dedicated this remarkable novelty to Madame Constantin d'Engelhardt, the wife of one of the principal amateurs of Orchids in Russia."

#### BRITISH FERNS AND WHERE FOUND (THE YOUNG COLLECTOR SERIES).

ONE might suppose from the title of this little work, by Mr. E. J. Lowe, that it would be plain reading, and adapted to the capacity of the young in the Fern school, but from what I can gather from its contents it is not so. To change the long-existing system of nomenclature, not only of individual plants, but also to do away with several of the old class names, appears to be its leading object. Although at page 12 it is stated that it is always undesirable to change familiar names, yet in the fourth and fifth lines on the same page the names of two classes are changed, substituting *Aspidium* for *Polystichum*, and *Asplenium* for *Athyrium*. The aim is said to be to correct the unpalatable names that exist without destroying their identity; but I would ask, What is there that can

be said to be unpalatable about the names of the four classes, I ought to say five classes, changed? I, for one, say Nothing, but I do feel that there is something very objectionable about the names introduced, and I shall never use them.

The next thing I would refer to is the fault-finding with descriptive and compound names, such as are and have been used by the most noted pteridologists of the past and present day, such men as Messrs. Barnes, Jones, Moore, Stansfield, Wollaston, and others. The above gentlemen have established a descriptive and intelligible nomenclature that is not likely to be superseded, and especially when we find such names as the following in this book. At page 50, *cladodesteron* (Lowe); page 51, *echnomocladon* (Lowe); page 52, *kephalobares* (Lowe), I think the above are not to be accepted as preferable to the descriptive system, and what young collector could understand them? A word next about the classes. Suppose a young collector to become possessed of the works of Messrs. J. Smith, T. Moore, T. L. Drury, or others we might name, and in looking over the classes of our native Ferns he found there are nineteen referred to, but in his young collector's series he can only find seventeen. He will be puzzled; and further, when he finds that in his "*Young Collector*" the *Aspleniums* are said to number eleven, while the other works he has consulted give nine, I think it will be likely many will proceed no further.

At page 50 of this work the reason for change is thus given, as it refers to the *Athyrium*. Mr. Lowe says:—"It is most nearly allied to the *Asplenium fontanum*, only the curved sori seems to be the main distinction between *Athyrium* and *Asplenium*." The above is against the change, and nothing else is produced in favour of it. Now what does *Asplenium* derive its name from? If we are correctly informed it is from the supposed virtue it possessed when used for the affection of spleen, and from this the class were called Spleenworts. Now who ever heard of the *Athyrium* being possessed of such virtue, or supposed virtue? Further, the *Athyrium* is a deciduous Fern, while all our nine *Aspleniums* are evergreen, and most of them are found on limestone or in the mortar of old walls, while the *Athyrium* could not exist under such conditions. All our *Aspleniums*, too, are of dwarf habit, while the *Athyrium* grows from 30 to 50 inches high according to the situation in which it is found, and it must take a stretch of imagination to see anything in common between the two classes of plants any nearer than that they are both Ferns. Distinct they are and must remain both in class and character. There is another reason, and a very forcible one, why they should be kept separate. The *Aspleniums* with their varieties number thirty or more, while the *Athyrium* with its varieties is supposed to reach 500 or more; therefore I think the *Athyrium* class is a very important one, and should not be merged into another, for it is strong enough to stand on its own merits.

There are other classes the names of which are changed which needed no change, nor will the change be accepted, for long before the author took pen in hand the names he is trying to do away with were firmly established—such as the names of *Athyrium F.-f.*, *Roth*; *Ceterach*, *Linnaeus*; *Lastrea F.-m.*, *Presl*; *Polystichum*, *Presl* and *Roth*; and also *Blechnum spicant*, *Smith*. I know many persons who do not approve of this change, which they consider needless.—J. EADON, *Sheffield*.



EVENTS OF THE WEEK.—The Royal Horticultural Society's Fruit, Floral, and Orchid Committees will meet at the Drill Hall, James Street, Victoria Street, at 12 noon, on Tuesday, August 11th. On Wednesday, August 12th, the Cardiff Horticultural Society's Show will take place, and in conjunction with it the British Fruit Growers' Association will hold a Conference at 4 P.M., at which several important papers will be read, including one by Mr. E. J. Baillie on "Fruit Growing as an Industry," and another by Mr. A. Pettigrew on "Hardy Fruits for South Wales." The Maidenhead Horticultural Society's Show will be held at Curtisfield on August 13th.

— THE WEATHER IN THE METROPOLITAN DISTRICT during the past week has been distinguished by frequent severe thunderstorms and torrents of rain, which in some cases have done much damage to garden and field crops. On several nights the temperature has been unusually low, resulting in a marked check to vegetables and fruit.

— GARDENERS' ORPHAN FUND.—At the Committee meeting, held last Friday evening, the following sums were announced:—Miss Ford Richmond, flower stall at the Show, £6 10s. 6d.; Mr. G. W. Cummins, by sale of flowers at Croydon Show, £11 5s. 6d.; Mr. R. Dean, by sale of Roses at Westminster Aquarium, £13 15s. 6d.; the Secretary, for flowers sold at the Wimbledon Show, £11 0s. 6d. Amongst amounts from collecting boxes were £1 from Mr. H. Cannell, £1 11s. 6d. from Ware Show (per Mr. Dean), and 12s. 1d. from Mr. H. W. Divers. Mr. D. T.



Fish sent £11 15s. as the result of opening the Hardwick Hall Gardens to the public; and the general collecting cards distributed a few weeks ago have brought in a sum of about £280. The result of the Crystal Palace fête had not been exactly ascertained, the railway receipts not having passed the clearing house, but the Committee were satisfied the Fund would benefit by the effort, and that their anticipations would be realised.

— **THE FINEST VINE IN BRITAIN.**—Mr. Barron in his excellent work, "Vines and Vine Culture," gives particulars of some of the largest Vines in Britain, including the remarkable example at Manresa House, Roehampton. Judging by the dimensions of the houses given in the work in question the Vine at Kinnell House, Bredalbane, Scotland, would appear to be the largest; but a Scottish gardener who is intimately acquainted with it, and who has closely examined the Manresa Vine, declares this to be the finer and in all respects superior. It is truly a marvellous Vine, trained and managed by the present gardener, Mr. M. Davis. It now completely fills the house 224 feet long, with seven rods as straight as Vine rods can be, stretching from end to end. Each rod resembles a vigorous young Vine, and bunches averaging 1½ lb. each with fine berries are hanging in the greatest regularity. Last year 607 bunches were cut from the Vine, weighing 956 lbs. This year the number is 642 bunches, the weight of which exceeds 1000 lbs. There are other unusual Vines at Manresa. Remarkable also are the espalier wires affixed along the tops of garden walls laden with Plums and Pears, much more fruit being borne on the branches above the walls than on those trained to them. Unusually fine young standard Apples are to be seen, and all the trees in the garden are laden with fruit. Manresa House is near the centre of the village of Roehampton, and about half a mile from Putney Railway Station. The garden is just now particularly worth a visit, but as cutting has commenced from the big Vine the sooner it is seen the better. It is a grand example of patience and culture by one of the most genial and courteous of men to be found in the gardening ranks.

— **CARDIFF PARKS.**—The prosperous town of Cardiff is famed for its parks and open spaces that have been provided for the inhabitants. At the last meeting of the Parks Committee the only business was the consideration of testimonials received from the ten applicants for the post of head gardener of the parks and open spaces under the control of the Corporation. On the proposition of Councillor Ramsdale, seconded by Mr. Andrews, Mr. William W. Pettigrew, son of Mr. A. Pettigrew, of the Cardiff Castle Gardens, was appointed. The successful candidate is twenty-four years of age, and presented testimonials from the Director and Curator of the Royal Gardens, Kew. The salary is fixed to commence at £120 a year, with £10 a year increases to £180. We know Mr. W. Pettigrew to be thoroughly well trained, and as he is intelligent and persevering, we have not a doubt he will ably discharge the duties of the position to which he has been elected, and do credit to the name he bears.

— **MODES OF CHRYSANTHEMUM CULTURE.**—I have read with more than ordinary interest that portion of Mr. Woodcock's paper which treats of plants for exhibition blooms, more especially the paragraph wherein he speaks of Hull cultivators having the advantage of free sandy loam. Would Mr. Woodcock be so kind as to say where in the neighbourhood of Hull such loam can be had? as hitherto I have been unable to obtain it, and I cannot help thinking he must be mistaken in his information. Though the briny ocean doubtless contributes to brightness of colour in flowers grown in its neighbourhood, still as Hull is about twelve miles from the sea as the crow flies, some other reason must be sought for here to account for such brightness. In proof of this it may be mentioned that at the last Hull Show there was a marked difference between the brightness of some stands of blooms from Grimsby and those grown locally. I think salt in the atmosphere has more to do with it than salt at the roots; but this would be a good subject for Mr. Briscoe-Ironsides to experiment upon.—R. FALCONER JAMESON, *Hessle, near Hull.*

— **THE BEDDINGTON, CARSHALTON, AND WALLINGTON SHOW,** held in Beddington Park on Monday last, was very satisfactory as regards the quantity and quality of vegetables staged by cottagers and allotment holders; there were also some tasteful baskets of flowers. The non-competing exhibits from nurserymen occupied much space, and were of a most interesting character. Messrs. J. Laing & Sons, Forest Hill, had a handsome group of Tuberous Begonias with miscellaneous stove and greenhouse plants, a large collection of hardy flowers, and several boxes of fresh bright Roses. Messrs. J. Peed & Sons, Tulse Hill,

contributed a well arranged group of choice flowering and fine-foliage plants, and Mr. J. R. Box, Croydon, had a group of Caladiums, Begonias, and other plants.

— **A WORK ON ROOM AND WINDOW PLANTS,** by Mons. D. Bois, has been received from the publishers, M. M. J. B. Baillière et Fils, 19, Rue Hautefeuille, près du Boulevard Saint-Germain, Paris. It is practically written and freely illustrated, therefore would be found useful by those who are interested in this branch of plant culture and are familiar with the French language.

— **THE TOTAL RAINFALL AT CUCKFIELD,** Sussex, for July was 2.99 inches, being 0.33 inch above the average. The heaviest fall was 1.04 inch, the result of a thunderstorm on the morning of the 27th. Rain fell on seventeen days. The highest temperature was 77°, on the 17th; the lowest 42°, on the 28th and 29th. Mean maximum, 68°; mean minimum, 47.1°; mean temperature, 57.5°. Partial shade readings 2° below the average.—R. I.

— **WEATHER AT RIPLEY, YORKS, DURING JULY, 1891.**—July was with us a good growing month. Up to that time the rainfall had been deficient, but I am glad to say we have during the month had several good penetrating showers, which have been of great benefit to all fruit and vegetable crops, especially so as regards Strawberries and Peas. Only on one day could the heat be said to be oppressive (the 17th), when we registered 79° in the shade. Rain fell upon thirteen days. Total fall for the month 3.08 inches, of which 0.54 inch fell upon the 7th. Mean reading of barometer, 29.95. Maximum temperature, 68.9°; minimum temperature, 46.3°. Temperature of month, 57.9°. Highest maximum temperature, 79°, on 17th, shade; lowest minimum temperature, 38°, on 28th, shade. Hay is a light crop hereabouts, and there is still much to be harvested. Potatoes look healthy so far.—J. TUNNINGTON, *Ripley Castle Gardens.*

— **WARWICK FLOWER SHOW.**—The annual Exhibition of the Warwick Amateurs' and Cottagers' Horticultural Society was held in the Castle grounds, which were generously placed at the disposal of the Society by the Earl of Warwick last week. No more delightful situation could have been found for holding a show. The long stretch of green sward set apart for the purpose descends gradually to the banks of the winding Avon, and is backed up on either side by noble specimens of Cedars, Limes, and Planes. The prizes were distributed by the Countess of Warwick, and during the afternoon both the Earl and Countess, accompanied by Lady Louisa Wells, closely inspected the exhibits in the show tents, and evinced great interest in all matters connected with the Show. Many of the productions staged by the cottagers were of great merit, and the Show as a whole was very effective. Many well known business firms sent non-competing exhibits, which were in all instances greatly admired.

— **NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).**—The series of prizes offered by Martin R. Smith, Esq., on July 21st were not competed for, owing to the season of the year being too late for Carnations. Mr. Smith is anxious that the prizes should be again offered on the date of the Exhibition of Ornamental Stove and Greenhouse Plants, in the Drill Hall, St. James' Street, Westminster, August 11th, 1891. The Council of the Royal Horticultural Society has kindly offered every facility for exhibitors. Notice of entry must be given to Mr. Barron, Royal Horticultural Society, Chiswick, W., three clear days before the day of exhibition. The Carnation Society will provide bottles if desired. The prizes are as follows:—Class A, The best border variety of self-coloured Carnation, not less than twelve trusses. Three prizes: £3 3s., £2 2s., £1 15s. Class B, Twelve varieties of self-coloured border Carnations, not less than six trusses of each variety. Three prizes: £3 3s., £2 2s., £1 15s. Class C, Eighteen varieties of flake, bizarre, or fancy Carnations or Picotees, not less than six trusses of each variety. Three prizes: £3 3s., £2 2s., £1 15s. These conditions must be observed.—1, Each exhibitor must sign the following declaration:—"I certify that all trusses shown by me for the prizes offered by Mr. Martin R. Smith have been cut from plants which have been wintered without protection in the open garden, and that they are staged without 'dressing,' and exactly as they were cut from the plants;" 2, Each truss to have not less than three flowers or buds; 3, Each truss to be cut with stems not less than 9 inches in length; 4, To be shown with Carnation foliage and buds; 5, A specimen of the foliage of each variety to be shown with the flowers; 6, The trusses to be staged in bottles, tins, or glasses; 7, No bands or ties round the calyx, and no paper collars or wire supports to be used; 8, A burst calyx to be a disqualification.—JAMES DOUGLAS, *Hon. Sec., Barking Side, Ilford.*



— THE SCIENTIFIC COMMITTEE AND STRAWBERRY BEETLES. — An entomologist writes: — "I note that at the meeting of the Scientific Committee of the R.H.S. as reported, some surprise or scepticism seems to have been excited by a statement as to beetles attacking Strawberries. It is now some years since the fact was fully set forth in the *Journal of Horticulture* that several species of the carnivorous ground beetles (I think we succeeded in identifying three) attack the Strawberry, though at first some doubt was felt as to whether the beetles were the real offenders. The report remarks that only hand-picking can be attempted as a remedy; but correspondents have stated that quantities may be successfully trapped either by putting down boards and slates on the soil, or, better still, by drain pipes loosely filled with hay, into which they crowd during the day."

— LYCHNIS VISCARIA FL.-PL. has been affording a bright display on the rockery or at the front of the herbaceous borders, and its bright rose-magenta coloured flowers are especially attractive when produced in masses. We plant several together, which is better than "dotting" the roots about singly. Although this *Lychnis* is hardy it is a good plan to divide old roots in the autumn, planting them in a cold frame in sandy soil, choosing small pieces with a root attached. By the early part of April well rooted plants will be available, and which will commence flowering freely in June of the same year.

— ONE of the best of the dwarf herbaceous *Spiræas* of a dwarf habit is *SPIRÆA FILIPENDULA* FL.-PL. For the front of a border or in a position on the rockery not too exposed to drought this Dropwort is very showy. The flower spikes are freely produced; not grow more than 18 inches high under the best of treatment. The flowers are pure white, but in very hot dry weather they quickly assume a dingy colour. No variety in the whole of the *Spiræa* family increases so rapidly as this, as seedlings spring up in the border when once a plant has become established.

— STENACTIS SPECIOSUS, or as it should perhaps be more properly called *Erigeron speciosus*, is one of the most useful in cultivation, for the flowers last a long time on the plant as well as continuing to throw up fresh flowers, that a few roots will make a show in the borders for at least a couple of months, sometimes more. The ordinary type grows from 2 feet to 3 feet high, but another which was sent me grows only 18 inches high; the flowers are smaller and a trifle deeper in colour than the ordinary one, but on the whole is the better of the two as a border plant. It is more compact, needs less support, but in a cut state I prefer the older sort, as the flowers make a finer display, and although, being larger, they have a light appearance. *Stenactis*, like most other perennials, does not succeed nearly so well if allowed to remain in one place for several years; it appears to lose vigour, especially in the centre of the root, which is an indication that they need renewal. We divide some of the roots every year, pulling them into pieces, planting them in sandy soil in a cold frame at the end of September, where they remain until the following April, when they will be useful little tufts, and will throw up several spikes of bloom. The following year they will make handsome bushes, large enough for anything. It is a mistake to have too large roots of such a perennial in a mixed border, as they entail so much labour in staking and never look so well.

— THE ST. BRUNO'S LILY (*ANTHERICUM LILIASTRUM*) has flowered better this year than I remember seeing it before. It is charming for the mixed border. When strong clumps are obtained a wonderful profusion of flowers is produced. It delights in a strong soil, mixing a little sand and old potting soil with the natural soil at planting time. Our clumps have not been disturbed for five years, and they never fail to flower well, and the pure white flowers are appreciated. They look well in a tall vase when cut with long spikes. No greenery shows them off better than their own grassy-like leaves of a glaucous hue.

— THE COMMON MONKEY FLOWER, *MIMULUS LUTEUS*, makes bright patches of yellow in the borders just now. The growth varies according to the treatment it receives and position in which it is planted. From 1 to 2 feet is the general height. Like all varieties of this family this is the better for dividing the roots annually; fresh vigour is imparted in consequence. No plant that I know can be increased more rapidly, so numerous are the rhizome-like offsets sent out from the base of an original plant. Every piece taken off with a root will quickly make a flowering plant. This plant is more often seen in cottage gardens than elsewhere.—E.

— SAXIFRAGA CYMBALARIA is a low-growing plant, suitable for the rockery, or even in clumps at the front of the herbaceous border. Among stones it may be grown to give a pleasing effect; the yellow flowers are freely produced.

— IRIS COMTE DE ST. CLAIR is one of the best varieties in the section of Flag or Bearded Irises. The three standards are white and the three drooping falls deep violet, reticulated and margined white. It is certainly one of the best small flowered kinds for the herbaceous border, and ought to be grown in quantity.

— HARDINESS OF *NICOTIANA AFFINIS*.—I was agreeably surprised to find that a number of old stools of this sweetly scented flowering Tobacco passed safely through the late severe winter uninjured. Several, and perhaps all of those not forked out of the borders last autumn, pushed up a number of shoots after the manner of various hardy herbaceous plants, and these, at the present time, are flowering beautifully. The same thing has happened elsewhere, but no one that I have discussed the matter with had previous to this season any idea that *Nicotiana affinis* is a hardy plant in the truest sense of the word. A few plants of it ought to be grown in every mixed border if only for its fragrance.—W. I.

— AMONG the plants shown at the last meeting of the ROYAL BOTANIC SOCIETY was a museum specimen of one which had lately died in the Gardens—a victim to the late severe winter. This was one of several specimens of the East Indian or white Mangrove, *Avicennia nivea*, sent to the Gardens by the late Duke of Buckingham when Governor of Madras. For some years past these plants had flourished amazingly, thanks to the near approximation to their natural condition attained by keeping them in a very wet state and watering only with sea water. Under these circumstances they threw up from the roots a number of offsets, or upright adventitious roots, of from 10 inches to 12 inches high, and half an inch thick. In a space of 2 feet square as many as eighty appeared, looking like so many rakes standing up out of the water, and keeping as near as possible the same height above the surface. The only explanation so far has been that offered by the Secretary, Mr. Sowerby. In its native state the trees form a fringe along the sea-shore and estuaries of great tropical rivers, lining the banks with a dense and impenetrable mass of vegetation, pushing itself further and further into the river or sea, and leaving behind the dry land it has reclaimed. In such a position these curious rootlets must be an immense advantage to the plant, enabling it to retain all the *débris* washed to the sides, and at the same time preventing the soil between the roots from being carried away by floods, &c. The plants of this species now growing in the Gardens are the only ones alive in this country.—(Nature.)

— VISIT OF THE HORTICULTURAL CLUB TO CRAWLEY.—The annual excursion of this Club took place on Wednesday, 29th ult., when Crawley and the neighbourhood were selected for a visit. The weather proved somewhat unfavourable, but the party, to the number of twenty-four, including several ladies, alighted at Three Bridges Station, and drove through Crawley to the extensive nurseries of Messrs. J. Cheal and Sons. They were there received by the members of the firm and staff, and immediately commenced a tour of inspection through the grounds, and, as far as time would allow, examined the numerous subjects of interest in the various departments. Worth Park, the palatial residence of Mrs. Montefiore, was next visited, the party being received by Mr. Glen, the gardener, and conducted through the gardens and grounds. The terraces and Italian gardens adjoining the mansion were next inspected, and a tour of the park was commenced, and the party were led by winding paths through woodlands and shrubberies surrounding the beautiful lake to the farmstead, where they were met and subsequently entertained to luncheon by Mr. Mare, the courteous steward. A long drive through Tilgate Forest followed to Handers Park, the residence of Mr. Warren, and Mr. Offer, the able steward, showed the visitors through the gardens; these contain a rich collection of Japanese and other dwarf Conifers, which have passed through the late severe winter unhurt. Handers Park is also famous for specimen stove and greenhouse plants. Returning through Holmbush Park, the charming residence of Col. Clifton Brown, most of the party walked through the pleasure grounds, over which they were conducted by Mr. Paterson, the gardener. After dinner at the "George" Hotel, Crawley, the members expressed themselves as highly gratified with what they had seen, and with the courteous way in which they had been received at the various places visited. The cordial thanks of the Club were given to Mr. D'Ombrian and Mr. Cheal for carrying out the arrangements for such an enjoyable day.



## WANDERINGS.

AMONG the pleasant remembrances of our visit to Antwerp was a call from one of its chief citizens, Mr. Everaerts, who gave such a strong, kind, take-no-denial sort of invitation to his beautiful home that it was irresistible. 'It was not kind of you when in Belgium before not to come and stay with us, and you must come now and remain a very long time. Our pleasure will be very great to send the carriage at your convenience and drive you to our residence at Vieux Dieu. It will be a great treat to us to have you with us, as we like the English, and especially those of them who love gardens as we do. Our garden is our great delight, our constant home pleasure, and is made the greater to us when it is shared by our friends.' That was the spirit of the invitation, and so far as can be remembered the form, to the country

on this? Does it not show what Shakespeare knew, and immortalised the truth in words that cannot die,

"One touch of nature makes the whole world kin?"

Here were workers in the hive of horticulture for subsistence on the one hand, and for mind-refreshing, health-giving, heart-loving exercise on the other—people of three nationalities but with common sympathies, and therefore common friends. It shows what gardening does for those who love it truly—unites all, of whatever rank, in the brotherhood of humanity, and makes happier through the union rich and poor alike.

"Very fine preaching," perhaps some of my readers may say, "but this does not happen in England." But it does. When was our great florist, the Rev. F. D. Horner, happier than in the plain little cottage of



FIG. 17.—THE ROCKERY IN MR. EVERAERTS' GARDEN.

home—the garden home it may be appropriately termed—of one of the truest garden lovers that can be found in Europe.

Mr. Everaerts is a great international banker and financier, also an ex-senator, and one of the most trusted and esteemed of the citizens of Antwerp; and Mrs. Everaerts is like her husband in her love for everything that grows, in her transparent kindness, her pleasing affability, and the frank and homelike welcome she gives to those who, as she says, are so kind as to visit them. I rather think that the sharer of my fate for more than thirty years—most of them years of labour not of luxury, but all of them years on which we can look back with as much satisfaction as can the most wealthy on their past career—yes, I almost think that, to quote the old English song, "My dear wife Joan" was really a little nervous over this visit to those who were strangers to her but not to me, and I well knew how soon she would be happy and at home with them. And so it was. She could not and did not feel a stranger a moment after her genuine welcome by Mrs. Everaerts, but quickly appeared as settled as if "the place was all her own." But why dwell

the working cutler florist's—the Simonite's—on that veritable "Rough Bank" at Sheffield? Not often probably except when he had "Ben" as his drawing-room guest at home. When is Mr. S. Barlow, J.P., more contented than when his flower-loving "mill hands" share with him the pleasures that his Tulips and Carnations afford, and discuss their points in the native vernacular? It is said that this "touch of nature," this mutual sympathy that flowers create, is so active with him that he sends his carriage for an aged workman who can no longer walk to see "th' owd gaffer" (old master), and the flowers that make them friends. Surely the world is not made worse for these pleasant associations, but better, as brought about by the good influences that are born in the garden, therefore let them be nurtured. Tired of all this are you? Well, we will change the matter; but it is all the same appropriate to the text—"Wanderings," mental wanderings; and now those of our young men who aspire to write a few pages for the *Journal*, and know not what to say that will be readable, may take a lesson from this example in choosing a text—short yet expansive, and around which the thoughts



have room to play, and memory to yield from its stores of material garnered in past days.

We will now, if you please, go back to Belgium. It has been suggested that Mr. and Mrs. Everaerts are "workers" in their garden, and it is true. They are workers both in it and for it. Their holidays have been spent for years past in searching for treasures abroad that they could establish at home; and nowhere have I seen the equal of the

and running stream below, through leafy tangle at the base, up stepping stones, then creeping in tortuous course along the mountain side to the resting chalet at the summit.

A few years ago an artist endeavoured to portray this fine example of taste and labour in this Journal, and although he conveyed an idea of the nature of the work, he could not adequately represent either its magnitude or charms. Still as it is the best representation available, I shall

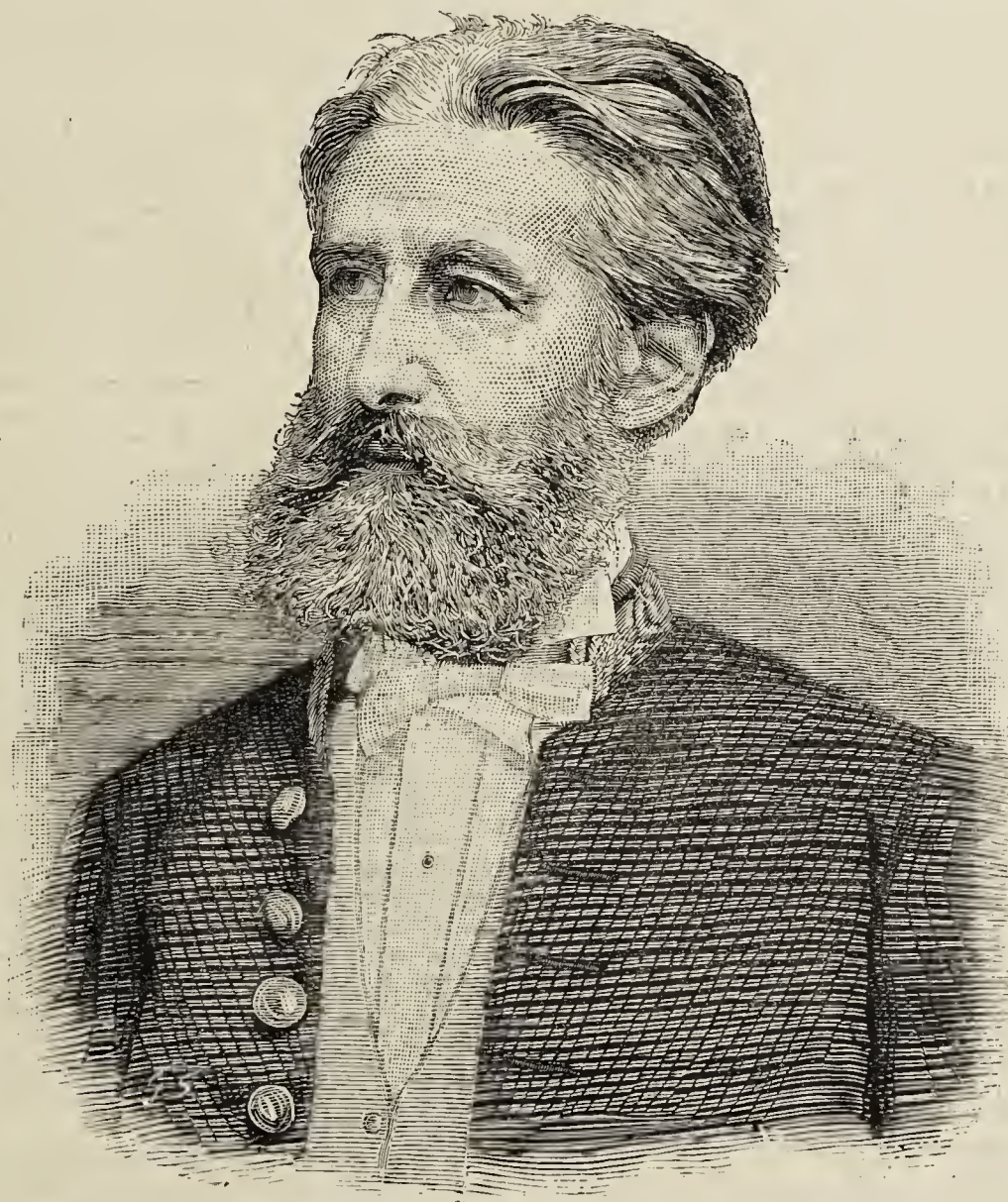


FIG. 18.—MR. JEAN EVERAERTS.

work that has been done by two amateurs. It seems incredible that the huge alpine rockery could have been built by one pair of hands in spare morning and evening hours. Hundreds of tons of material must have been employed in its construction, and the stones were brought from a distance of several miles; while the plants that clothe it so richly were collected and placed in their positions by the steady untiring perseverance of the owners over a period of a quarter of a century. In design, as well as magnitude, the rockery is remarkable. It must be a replica in miniature of some natural scenes—of precipice and rugged knolls, of spurs and peaks, with narrow paths leading from the gorge

ask that it be reproduced, as it seems fitting that the worker and his work should be seen together in the pages which have afforded him pleasure and helped him in his various cultures during his gardening career. They could not teach him how to make and furnish a rockery, for in that art he is a Master; but in the production of fruit and flowers under glass and outdoors, also in the vegetable supply for his two establishments, they have been useful. It has been previously said, and I have had conclusive evidence of the fact from the tongue of his gardener, that he, through the liberality of his employer, was taught the English language for the purpose of reading the *Journal of Horticulture*. The



garden of about thirty acres may be said to be conducted on Journal lines; it is cropped with English seeds, contains plants from our various nurseries, and is without any doubt a credit to master, mistress, and man, for they all join happily together in the work. As bearing on the English connection, an event of the dinner table may be mentioned, as it caused a little amusement. Among the letters brought in was one containing the portrait of an English florist: no, there was no letter, but only a smiling face, "with compliments." It was handed to me for recognition, with the remark, "This is one of the pleasant ways of the English; your friend does not say one word about the bill I have not yet paid, but sends me this; he is very kind and thoughtful, and shall have his money." I could not help thinking there was a thoughtful man in Belgium, too, who thus expressed his appreciation of the pictorial presentation.

And now, lest it should be supposed I am making too much of the Belgian garden, saying more about it than it deserves, I will adduce supporting testimony. Some persons who travel beyond their own country are said to view everything abroad through rose-coloured spectacles of considerable magnifying power, and therefore are prone to disparage home work, manners, and customs accordingly. No doubt many persons can remember how greatly they were impressed on a first inspection of something "abroad" they had longed to see; how on a second visit the object was less striking, and on a third was only of an ordinary character. They then began to feel there is something worth seeing at home after all. In gardening there undoubtedly is, indeed, broadly speaking, and taking a wide survey of all branches of the art, there are not many persons who can see things as they are, and who know what they see, who will refuse to concede that there are no better cultivators in the world than the best British gardeners. The farther I go and the more gardens I visit the greater is my pride in the cultural capacity of my countrymen. But this must not prevent a just and fair description, however "rosy" it may seem, of the work of others wherever it may be found, and by whomsoever conducted and accomplished. Mr. Everaerts' garden is not to me of diminishing but increasing interest on each recurring visit, including the last, and possibly to remain so, though the thought is not one of the most pleasant on which to dwell.

Here is the confirmatory evidence I am able to adduce from a gentleman who has seen many gardens both in Belgium and in Britain that the garden in question is distinctly noteworthy:—"One mass of *Cypripedium* spectabile more than 3 feet across with bright green foliage, from which emerge fifty-three fine blooms; standard Roses, 12 feet high and as much through, covered with hundreds of flowers; and a border of *Gnaphalium Leontopodium* (Edelweiss) in full bloom, and measuring 150 feet long by 5 feet wide, are features seldom met with, and which I had the pleasure of admiring last week at our friend, Mr. J. Everaerts', beautiful seat at Vieux-Dieu.

"No place in this country is richer in plants, and I daresay that in very few is the culture of plants so well understood as it is here. Collections of deciduous trees and shrubs, Conifers, Rhododendrons, and evergreens generally, herbaceous, and especially of alpine plants, are very complete. Such things as the rarer *Gentianas*, *Primulas*, &c., *Rhododendrons ferrugineum*, *hirsutum*, and their red and white varieties, and many other scarce plants are represented by grand specimens, and skilfully distributed on the large rockery which you know so well. Most of the alpine plants grown on the rockery were collected by Mr. and Mrs. Everaerts themselves on their different tours on the Alps. Mr. Everaerts rises early in the morning and remains with his plants until business calls him to town—in fact, he spends all his spare time with them. The watering of the plants deserves special mention. It is done in a peculiar manner—for instance, plants requiring constant moisture at the roots are flanked with a good sized flower pot made to hold water, a band of cloth hangs out of it, supplying the moisture drip by drip in the way of a syphon. Mr. Everaerts found out several other combinations, speaking highly in favour of his inventive character; the consequence is that plants do remarkably well. I never saw, for instance, such masses of *Linnæa borealis* creeping on the rockery. They are a yard across and in great luxuriance.

"Mrs. Everaerts is as great an amateur as her distinguished husband. She is very fond of Roses and Ferns. The leaves of the latter are dried with care, pressed between sheets of silky paper and used as elegant lamp screens, which she makes with great taste, and distributes to her friends as souvenirs of their visit to her country residence.

"Among fine trees may be mentioned several examples of *Gleditsia inermis* and *triacanthos*, and a very fine Tulip Tree (*Liriodendron*). Among Conifers really grand specimens of *Abies Gordoniana*, *lasiocarpa*, *Menziesi*, *Douglasi*, and *Nordmanniana*. Of each of the two latter there are about a dozen splendid trees from 30 to 40 feet high. The newer species are also all represented in good-sized specimens. *Tsuga Hookeriana*, two plants of the largest known in this country. *Cryptomeria Lobbi* deserves special mention. This noble tree is about 30 feet high and of a perfect pyramidal form. At a distance I took it for a fine *Wellingtonia*, of which it has the habit. It has not suffered in the least by frost.

"Japanese *Acers*, especially the purple-leaved varieties, do well here and have proved quite hardy. I admired a bed of *Kalmia latifolia* surrounded by *Kalmia nana rubra*. It was covered with flowers, and most effective. I need not to speak of the fine border of herbaceous and bulbous plants, which you know very well, and are, I think, unsurpassed in Belgium.

"There are a good many orchard and plant houses, one of which has now been converted into a fernery by Mrs. Everaerts, and filled with the choicest and finest sorts.

"The soil being of a sandy loam fruit trees do well. We find all the leading sorts of Grape Vines, including the English varieties, numerous, and well grown pyramid Pears, standard Apples, Apricots, Plums, and Cherries in quantity, and all of choice quality. Vegetables and small fruits are fine and abundant.

"The gardener, Mr. Jean Borré, has been now some twenty-eight years in his situation, and is as much liked by his master and mistress as he respects them. The farm premises have been rebuilt, all being exceedingly well kept, and as clean as I ever saw any in Holland (celebrated for its cleanliness). Mr. Everaerts procured a farmer from Switzerland, who evidently knows his business well."

The above letter was spontaneous and unexpected. It is a simple record of the impressions made by a recent visit. It is a fair, just, and true description of what is unquestionably a well furnished, well kept, and much-loved garden, which all true garden lovers are welcome to inspect.

The drives in the surrounding country with Mr. Borré as guide and interpreter were full of interest. A call was made at Mr. Havenith's establishment, where Grapes and bullocks are grown extensively for market; also on Mr. Sels, who has thirty or forty vineries in a village, the name of which cannot be remembered. He crops his Vines enormously; the prices for Grapes being lower than in England, only heavy crops are found to "pay," but the quality is below the English standard of excellence.

The villages passed through appeared nearly deserted, as all the people, men, women, and children, seem to work on the land, and certainly ten times more were observed thus employed than are seen on an equal area in England, except in Strawberry fields in July. Let us hope they are all as happy as they appear to be.

To Mr. and Mrs. Everaerts and their excellent gardener thanks may be permitted to be here most cordially rendered for manifold kindnesses received by—I had nearly said John Bull and his wife, but mean—a typical pair of natives—DARBY AND JOAN.

## INSECTS OF THE FLOWER GARDEN.

(Continued from page 384, last Vol.)

My experiences amongst gardeners generally have convinced me that they are intelligent men, not simply in their special department, but in other matters that may call forth their powers; but I must own that some of them seem to have a difficulty in grasping what are really easy entomological distinctions. This is the more remarkable, because they are frequently called upon to discriminate between species and varieties of plants, and are therefore, for the most part, quick observers. Here is a point which I have noticed cause perplexity, the difference between the true caterpillars which produce butterflies or moths, and the false or pseudo-caterpillars which develop finally into sawflies. It is not so much a question of name, that of caterpillar may be as fitting for one as for the other, both being devourers of vegetable substances and strippers of foliage, but successful measures for the suppression of hurtful insects depend largely on a full acquaintance with the habits or economy of the species that are to be guarded against. Still, it must be allowed that some of the mock caterpillars of sawflies appear, at first sight, very similar to those of the *Lepidoptera*, yet they belong to the primary division of the *Hymenopterous* order, which though it contains so many troublesome foes, also enrolls a host of insects that are the friends or helpers of the gardener.

The flower garden offers special attractions to a large number of the insects of this division. Some are drawn to it by the flowers, which supply them with honey and pollen; some seek it because it furnishes them with insects they prey upon; and some, like the sawflies, visit it in order to attack the leaves or stems of plants. A very comprehensive order of insects this, embracing the ants, wasps, and bees, which rank as the most intelligent of the race, and also comprehending, besides the sawfly group, the remarkable brotherhood of the *ichneumon* flies, so destructive to other insects, through their habit of depositing eggs in or upon the bodies of their victims while in the early stage of existence. A portion also of these four-winged insects are makers of galls, but the two-winged flies produce some of them.

We begin with the species to which allusion was made at the commencement, those which, as larvæ, consume the buds, leaves, or occasionally the flowers of plants; and which, from their frequently feeding in companies, are very observable. Exceptions there are, as in the case of the sawfly larva, which sometimes swarms upon hedges of Hawthorn and Bramble; this conceals itself during the day within the bushes and comes forth to feed at dusk, probably thus escaping insectivorous birds. But I rather think that some of them, from their exposed manner of feeding, are not apprehensive of any danger, and are shunned by birds, which have their fancies in the matter of insect food. The abundant species infesting the Gooseberry is an example, as it is stated to be eaten only by the cuckoo. This sawfly caterpillar is often confused with that of the Gooseberry moth, and such caterpillars have certainly



many of the habits of true caterpillars, and somewhat of their appearance. But a sawfly larva possesses a larger number of legs than do larvæ of butterflies and moths; theirs never exceed sixteen, a sawfly may have eighteen or twenty, and in some species there are but six, which is never the case with the true caterpillars, which have at least ten. Some caterpillars are a trifle eccentric in posture; they double themselves round or elevate the head or tail occasionally, but I never saw a true caterpillar curl up its tail, yet this is done by several of these sawfly mock caterpillars. The head also will be observed to be fitted on the body much more rigidly in them, allowing very little play. In some species these larvæ unite to construct a sort of silken tent, under which they can feed, sheltered from the weather. There have been a few curious instances of some being discovered in the interior of fruits.

The sawflies, or Tenthredinidæ, are small eaters when in the fly condition, feeding chiefly on fruits. Their general appearance separates them readily from all other insects. The body is rather short and nearly equal throughout, the wings large, and the legs longish; their colours vary, but black, yellow, and red occur frequently. No part of a sawfly, however, is more interesting than the implement which suggested the name, and by which the work of egg-placing is effected. It is a double saw, and the female fly, when using it, first slides out one, and as this is returning pushes forward the other; the double movement is continued till a suitable hole has been cut. Each tooth of the saw is studded with smaller teeth, and in the different species the strength of each saw is suited to the task it has to perform, because some twigs and leaves require very different treatment in making a cut to what others do, as their thickness or toughness vary. It is also supposed that a minute drop of acrid fluid is thrown into the wound by most, if not all the flies, whereby it is prevented from healing up.

Just now the second or summer brood of the sawfly of the Rose (*Hylotoma Rosæ*) is actively employed in oviposition about gardens where this favourite flower is cultivated, and it is a species affording us a good illustration of the tribe. This fly is about half an inch in length, the body is glossy and of an orange tint, the head and legs blackish. The mother fly may be watched and caught in the act as she passes from twig to twig; sometimes three or four eggs only are placed near together, at others there may be a dozen on a single twig. This is a tiring task, and the parent does not complete it in a day, several being occupied by it before all her eggs are disposed of. Should we cut open an infested twig before the larvæ have emerged we see that round every egg is a small vacant space; the vegetable cells do not press upon it—in fact, after the egg is laid its shell expands, and the size of it is increased. When the larvæ have hatched they feed on the leaves of the Rose till these are beginning to decay, and their growth being completed enter the soil at the roots, where each constructs a separate cocoon. In colour these larvæ are yellowish green, dotted over with numerous black and hairy tubercles. While eating it is a favourite fashion of theirs to assume the figure of the letter S. Evidently a most effectual way of dealing with them is to remove or kill these winter cocoons, and thus reduce the number of flies that appear in early summer to start the new brood. The eggs of this brood are laid about May, and of course a much greater amount of mischief is done by the first emerging larvæ, as the Rose's development of both leaves and flowers is seriously checked. When adult in June all the larvæ do not descend to the earth. Some make cocoons of silk upon walls or trunks; these are yellow, very elastic, and the outer fibres cross in a way which reminds us of a racquet. Less frequently noticed is another enemy of the Rose (*Tenthredo agilis*), which hides itself within some twig to undergo its change, and, according to some observers, also feeds on the pith while it is growing to maturity.

The dusky brown sawfly called *Tenthredo Lucorum*, which is nearly the size of a queen wasp, is frequently to be seen careering over our garden walks, and the supposition is natural that this insect has some evil designs upon our flowers, but I do not think it touches them. To the larvæ the Hawthorn and Sloe afford food, and these creamy white rather unpleasant looking creatures have been plentiful on many hedges during this summer. The cocoon is a conspicuous object upon the twigs in the winter months, the larvæ remaining unchanged till the spring; instinct, however, has taught some birds to open these and devour their contents when other food is scarce. We often see in gardens the large sawflies of the genus *Cimbex*, with clubbed antennæ, which fly slowly with a buzzing noise. Their chief food is the leaves of such trees as the Aspen, Birch, Alder, Pine, and Elm, most of them being green marked with black. It is observable that the sawflies show no inclination to attack the exotic plants, which are common in our beds and borders during the summer, though the characteristics of some of these might seem to be tempting, but they have appetites restricted to particular species, and less variable than those of many of the true caterpillars.—ENTOMOLOGIST.



#### ROSES ON HOUSE WALLS.

THE past summer has been a favourable one for Roses in this immediate neighbourhood, abundance of clean healthy blooms being seen in many of the gardens. One specimen of the Gloire de Dijon called forth a comment in the local paper as being "A sight worth seeing and worthy of being photographed." The owner took the hint and had some photographs taken, of which I send you one. The tree in question is on the front of the house of T. A. Lodge, Esq., of Dogmersfield, and was budded by himself. The whole tree shows only two years' growth, and extends round the corner of the house, over the greenhouse, where the blossoms are quite as profuse. The photograph scarcely does justice to it, as it was not taken till the blooms were going off and many of the lower ones had been cut. They were not only numerous but very fine.

At Itchel Manor also, the residence of C. Maxwell Lefroy, Esq., some remarkably good Roses have been grown. In these gardens Roses are rather a speciality, and they are extremely fine both as regards size and colour.—H. W. AUSTIN, *Fir Cottage, Church Crookham, Hants.*

[The photograph shows the Gloire de Dijon Rose mentioned by our correspondent covering nearly half the front of the house, and bearing abundant flowers at the upper parts of the stems.]

#### ROSE LAMARQUE.

FOR producing blooms in quantity in a greenhouse early in the season there is no Rose to equal this one. The growth is free, each shoot terminating in a cluster of pure white Roses. From the bud stage to a half-expanded state this is perhaps the whitest of Roses; afterwards the centre of each is tinged with faint yellow.

As a climber Lamarque has few equals, either with glass protection or on the open wall. It strikes freely from cuttings 3 inches long, inserted early in May, taken from a plant which bore a crop of flowers during April. We use a sandy soil, plunge the pots in a gentle bottom heat, and shading the leaves from bright sun. Plants so raised quickly become established, and give excellent results if a few essential points in the culture are attended to. Climbing Roses like this do not succeed when growing in pots; they need more root space than that system affords. A free growth after flowering is important, and is most easily obtained by first removing any weakly growths and others to prevent crowding the branches. Abundance of water, both at the roots and over the foliage, is necessary to keep down red spider, to which the foliage of this Rose is much subject, and if allowed to increase must damage the next season's flower crop. A thorough drenching with the garden engine occasionally is in favour of a clean growth.—E. M.

### HORTICULTURAL SHOWS.

#### HAYWARDS HEATH.

THE third annual summer Show of the above Society took place by the kind permission of Mr. Pennett in his meadow, South Road, on Wednesday last the 29th ult. The Show was in every way a great success, and a decided advance on its predecessors. The entries were 1200 in number, making an average of eight per class. Unfortunately the weather again proved most unfortunate, for it rained nearly the whole afternoon.

The best features among the plants were the groups. There were five entries for a miscellaneous group. The first prize was awarded to Mr. George Stringer, gardener to R. A. Bevan, Esq., Cuckfield, with bright, well grown, and artistically arranged plants. Mr. W. Jupp, gardener to G. Boulton, Esq., Eastbourne, followed with a light arrangement. Third, Mr. H. Townsend, gardener to E. J. Arbour, Esq., Lindfield. Fourth, Mr. S. Horscroft, gardener to T. Potter, Esq., Ardingley. Mr. Jupp was placed first for both the groups of Ferns and foliage plants, followed in the first-named by Mr. H. Townsend and in the latter by Mr. G. F. Wickham, gardener to Mr. Humphrey of Keymer. The stove and greenhouse plants were rather disappointing once more. Mr. A. Stamp, gardener to Mr. Knight, Haywards Heath, was first. For four fine-foliage plants, Mr. H. Townsend and Mr. J. Hodges, gardener to S. Gibbons, Esq., Lindfield, gained the premier awards. Bright groups of Gloxinias were shown, Mr. D. Smith, Wivelsfield, winning the first prize. The first place for six Ferns was given to Mr. G. F. Wickham for large bush plants. Begonias were very bright, Mr. J. W. Long, gardener to General Adams, Haywards Heath, having the best singles, with very fine flowers. Mr. G. F. Wickham was second with good doubles. The last-named was first for a single specimen plant in bloom with a fine Bougainvillea; Mr. S. Horscroft taking first place for a specimen foliage plant with a fine Croton.

The season has been rather backward for a good show of Dahlias and Asters. There was, however, a good show of Roses in the various classes, Mr. P. Marsh, Lindfield, and Mr. R. Inglis, Cuckfield, coming in first and second for twelve blooms. The class for hardy herbaceous flowers



from the open border and hardy annuals formed quite a fine display. Mr. W. Manton, gardener to Mrs. C. Borrer, Bolney, was first in the former two classes, and Mr. G. F. Wickham in the latter with fine collections. The bouquets were not very grand, Mr. G. F. Wickham being an easy first. In consequence of the ladies taking up the table decorations—a centrepiece—there was a good competition in this class, and to see the amount of materials drawn from the open borders by the most successful exhibitors gave a good illustration of what your correspondent "D. W. C." said on this subject in this Journal (page 83). Miss A. Godby, Haywards Heath, was first in the open class with a light arrangement, chiefly bright Poppies, Cornflowers, Sultans, &c., and Grasses. Mr. W. Brookway, Burgess Hill, was second, also with a light tasteful exhibit. For the class for ladies only Miss E. Packham, Haywards Heath, had the premier place, closely followed by Miss A. Godby. Had these, with the bouquets, been all properly arranged on one table on a white cloth or paper, as is generally done at large shows, instead of being placed in different parts of the tents, they would have been a very charming feature.

Black Grapes was a fair show, Mr. J. Hodges was first for both black and white Grapes with finely coloured fruit, and Mr. Geo. Warrin, Balcombe Place, Balcombe, was second in both classes. Mr. J. Holman, gardener to Mr. Good, Burgess Hill, was first for six Peaches, Grosse Mignonne, splendid fruit, Mr. J. Hodges being first for six Nectarines, well coloured. Messrs. P. Marsh and W. Manton were the successful exhibitors of scarlet and green fleshed Melons. The latter was also to the fore with Tomatoes. There were large entries of small fruits, the successful exhibitors being Messrs. J. Sands, C. J. Warren, A. Scutt, W. Manton, Geo. Warren, J. Linghy, and others.

In the special classes open to the county, Mr. Geo. Stringer was the only exhibitor for the collections of fruits, flowers, and vegetables. Mr. W. Manton was well to the fore in vegetables, winning the Societies' first prize for nine dishes, and the Messrs. Sutton's prize for a collection of six in a good competition. Mr. J. S. Cottingham, Haywards Heath, took the premier place in Messrs. Carter's class, and Mr. Geo. Stringer won Messrs. Cheal's prize for similar collections. Mr. T. S. Ware's prize for twelve herbaceous flowers was awarded to Mr. W. Sanders, gardener to Mrs. Bannister, Cuckfield, and a similar prize offered by Messrs. Norman of Burgess Hill was won by Mr. W. Manton. Mr. S. G. Ramsey's (Worham, Kent) prize for twelve cut Roses to Mr. P. Anscombe, Lindfield, and the Messrs. Woolard's (Lewes) prize for twenty-four cut Roses was given to Mr. A. Slaughter, Steyning, for splendid blooms.

The trade contributed, not for competition, largely to the Show. Messrs. W. Wood of Mansfield, A. Stoughton of Steyning, W. Balchin and Sons, Hassocks; W. Piper, Uckfield; J. Cheal & Sons, Crawley; Mrs. Woolard of Lewes; and W. Knight, Hailsham, all sent fine collections of cut Roses, which was a great attraction. Messrs. Cheal had also fine Cactus, Pompon, and single Dahlias; and Messrs. Peed & Son had a group of decorative plants. Messrs. Grimsdick of Haywards Heath had a miscellaneous exhibit; and Mr. Haslitt, Bolney, had a large collection of British Ferns, showing the almost endless variety of forms assumed by a very interesting class of plants.

Mr. A. Willmot, Hon. Secretary, and his excellent assistant, Mr. Jolly, carried out their arduous duties in good style. There was some delay, and the necessary consequences were hurried judging and a waiting public. It would facilitate matters very much in this respect were a small tent set aside for those who have cut flowers to arrange, so that they do not interfere with the staging arrangements of plants.

#### LIVERPOOL SHOW.—AUGUST 1ST AND 3RD.

LAST Saturday the above Association opened their twelfth grand summer Exhibition in Sefton Park, and on no previous occasion has such a display of plants been provided there. The tent was of enormous proportions, and in the centre the visitor's attention was immediately arrested by the groups of stove and greenhouse plants. Up the centre of the marquee were magnificent Palms and Tree Ferns, with foliage and flowering plants, Ferns, &c., blending and harmonising in the best possible manner, and on each side were arranged Zonal Pelargoniums, Caladiums, and all kinds of greenhouse flowering plants. The top end to the left of the entrance was a continuation of the tent cross-ways containing the fruit, vegetables, amateurs' groups, &c., while the corresponding end was filled with nurserymen's groups, Roses, Orchids, cut flowers, Gloxinias and Cockscombs. Coming to the principal prize winners it will perhaps be as well to follow the schedule:—

*Stove, Greenhouse, and Foliaged Plants.*—Very fine indeed were these. The first prize for ten was deservedly awarded to Mr. B. Cromwell, gardener to T. Sutton Timmis, Esq., Cleveley, Allerton, for an excellent collection, comprising a splendid Anthurium Scheitzerianum, 100 spathes; Ixora Williamsi, superb; Clerodendron Balfourianum; Croton Queen Victoria, 7 feet 6 inches through, well grown and beautifully coloured, the same remark applying equally to Croton Countess; and a splendid Gleichenia dichotoma was 7 feet 6 inches in diameter. The second position was taken by Mr. Finch, gardener to J. Marriott, Esq., Coventry, who fell short in the flowering plants, the best being Erica Parmenteriana rosea, Statice Pattersoni, Crotons Queen Victoria and Warreni, very good, about 7 feet in diameter; and excellent Palms. Mr. A. R. Cox was a good third with a fine Croton Queen Victoria, 7 feet; a capital Erica Maroccaniana, and Kalosanthes Dr. Regel; also a choice example of Calamus ciliaris. There was only one exhibitor with the six stove and greenhouse plants—viz., Mr. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, who had well-flowered examples of Stephanotis, Allamanda nobilis, and Clerodendron Balfourianum. Mr. Jellicoe was

also accorded chief honours in the class for three stove and greenhouse plants in bloom, having in it a fine Anthurium Andreanum. Second, Mr. T. Wilson, gardener to O. H. Williams, Esq., Fulwood Park, Aigburth. For four stove and greenhouse plants in bloom Mr. A. R. Cox was a good first, having a beautifully flowered Clerodendron, Statice Holfordi, and Erica amula. Second, Mr. Cromwell. In other classes the prizewinners were Messrs. Finch; R. Pinnington, gardener to Edward Banner, Esq., Blacklow House, Roby; Thos. Gowen, gardener to J. A. Bartlett, Esq., Mossley Hill; A. R. Cox; Heany, gardener to H. G. Schintz, Esq.; Jellicoe; T. Gowen; and J. J. Craven, gardener to J. Grant Morris, Esq., Allerton Priory, Woolton.

*Ferns.*—The chief prize for six was taken by Mr. Cromwell with specimens ranging from 7 feet 6 inches down to 5 feet in diameter, conspicuous being Nephrolepis davallioides furcans, N. rufescens tripinnatifida, Davallia fijiensis plumosa, and Gleichenias Mendeli and dichotoma. Second, Mr. T. Gower, with a remarkable Davallia Mooreana. Third, Mr. A. R. Cox, who had excellent Cibotium Schiedei and Adiantum farleyense. For three Mr. J. Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth, was first, having a splendid Adiantum scutum. Second, Mr. Jones, gardener to W. C. Clark, Esq., Orleans House, Sefton Park, and third, Mr. G. Eaton, gardener to W. H. Shirley, Esq., Allerton House. The latter was first in the single class, having Davallia Mooreana, about 8 feet across, in the best condition. Second, Mr. Jellicoe. The Tree Fern class was taken by Mr. T. Gower. Mr. T. Foster, gardener to J. Brancher, Esq., Greenbank, Wavertree, taking first for hardy and Filmy Ferns.

*Orchids* were much below the average, and call for little comment. For four Mr. J. Bounds was first, who had a capital variety of Oncidium crispum grandiflorum in his collection. In the class for one, first Mr. T. Gower, with Saccolabium Blumei majus. One greenhouse Erica, first, Mr. Finch. Second, Mr. Cromwell. Three Fuchsias, first, Mr. Cromwell, with beautiful specimens, 6 feet high; and for one, Mr. T. Winkworth, gardener to R. Brocklebank, Esq., Childwall Hall. Mr. Winkworth also secured the premier position with six Zonal Pelargoniums, trained, well flowered, and greatly admired. Mr. T. Gower second. The latter was first for one, Mr. G. Eaton leading with four Ivyleaf varieties trained as pyramids. Tuberous Begonias have been seen to better advantage. For six Mr. A. R. Cox was first, and for one Mr. Wm. Lyon, gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby. Coleuses and Caladiums were everything to be desired. In the former Mr. Hitchman, gardener to A. Earle, Esq., Childwall Lodge, led the way, closely followed by Mr. G. Eaton. In the latter Mr. J. Warrington, gardener to Tyndall Bright, Esq., Brierley, Aigburth, exhibited six, which it would be difficult to surpass. Second, Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, who had attractive varieties. In the class for Cockscombs Mr. Gower was first. Gloxinias Mr. C. Osborne, gardener to H. J. Robinson, Esq., Aymestry Court, Woolton. The same exhibitor was first for single Liliun, a magnificent auratum, with over forty flowers.

*Groups.*—These formed one of the most pleasing features in the Show. Ample space was provided, so that there was no crowding, either to those exhibiting them or to the public who viewed them. In the amateurs' class for a group in a space not exceeding 150 square feet in a circle, Mr. A. R. Cox was deservedly first. From the centre arose a light Kentia Fosteriana draped with Panicum and furnished to the ground with Maidenhair Fern. The four rising outside mounds contained four Dracenas furnished at the base with Maidenhair Fern. Midway between these were single-stemmed Crotons well coloured, and small plants of Cyperus. The plants used to give the requisite colour were single Petunias, Zonal and other Pelargoniums, with a few Cattleyas. Mr. Jellicoe's second prize group was also a capital one, and contained many choice plants, but not quite enough foliage. Third, Mr. T. Wilson; fourth, Mr. Heany. In the nurserymen's groups Messrs. R. P. Ker & Sons were first with an admirable arrangement. Mr. T. Jones was an excellent second, and displayed much taste. Third, Mr. T. Coulton, nurseryman, Aigburth.

*Roses.*—The competition in the nurserymen's class was equal, both in numbers and quality, to any former years, but in the amateurs' class there was a considerable falling off. In the class for forty-eight, distinct, Messrs. Perkins & Sons, Coventry, secured the post of honour with remarkably fresh blooms. Messrs. Harkness & Son, Bedale, Yorkshire, were good seconds; and Messrs. A. Dickson & Sons, Newtownards, County Down, were third. For eighteen cut Roses, Teas, H. Teas, and Noisettes, Messrs. Harkness were first. Second, the English Fruit and Rose Company. Third, Messrs. D. & W. Croll, Dundee. In the class for twenty-four blooms, Mr. T. Leadbetter, gardener to T. B. Hall, Esq., Rock Ferry, had a splendid stand, good in every point, and gained the first prize. Second, Mr. C. Osborne. Third, Mr. Thomas, gardener to J. P. Brunner, Esq., Sefton Park. With twelve cut Roses, first, Mr. Brownhill, gardener to George Fowler, Esq., Rock Ferry. For twelve cut Roses, two light and two dark, Messrs. A. Dickson & Sons, were first. The most tastefully arranged box of Roses came from Mr. T. R. Bulley, Liskeard. Second, Mr. Greene, gardener to L. H. Macintyre, Esq., Aigburth.

Cut flowers were well shown. For twelve varieties, stove and greenhouse flowers, Mr. Jellicoe was first, and in the corresponding class for twelve bunches of herbaceous flowers, Mr. Harrison, gardener to Mrs. W. G. Bateson, Allerton, was first; whilst the two collections of twenty-four, staged by Mr. G. Eaton and Mr. Edwards, gardener to H. Tate, Esq., jun., Allerton Beeches, were splendid.



*Fruit.*—The fruit exhibited was of the highest quality, and the competition good. In the open class for eight dishes Mr. Goodacre gardener to the Earl of Harrington, Elvaston Castle, Derby, took the leading position. He had good Madresfield and Muscat Grapes, a fair Queen Pine, splendid Royal George and Lord Napier Nectarines, Monarch Melon, fine Musch-Musch Apriots, and Kirke's Plum. The second position was worthily accorded Mr. J. Bennett, gardener to Hon. C. H. Wynn, Rûg, Corwen, North Wales, who had grand Hero of Lockinge Melons, Princess of Wales Peaches, Oxonian Strawberries, and capital Muscat Grapes. Third, Mr. P. Blair, gardener to Duke of Sutherland, Trentham, who showed Violette Hâtive Peaches, Waterloo Strawberries, and Queen Pine (very good). Mr. Goodacre was also first for a dish of Circassian Cherries, Mr. Bennett securing first place for dish of Strawberries and Hero of Lockinge Melon. In the class for six dishes of fruit Mr. Elsworthy, gardener to A. R. Gladstone, Esq., Court Hey, Broadgreen, was first, and the collection was excellent in every respect. Madresfield Court Grapes, Bellegarde Peaches, and Elruge Nectarines were especially fine. Second, Mr. Coates, gardener to W. H. Verdin, Esq., Darnhall Hall, Cheshire, who had grand Muscats. Third, Mr. Stoney. For one Pine Apple Mr. Harris, gardener to Mrs. Banks, Winstanley Hall, Wigan, was first.

Grapes were of high merit, and Mr. G. Middleton, gardener to R. Pilkington, Esq., Rainford Hall, secured no fewer than four first prizes in the five classes—viz., for four bunches (two black and two white), two bunches Black Hamburgs, two bunches Muscats, and two bunches of any other white, all well finished. Mr. Elsworthy was second in the four bunch class; Mr. Coates in the Muscat class; Mr. Barker, gardener to J. W. Raynes, Esq., Rockferry, in the Black Hamburgs; and Mr. Fergusson, gardener to Mrs. Paterson, Rockferry, in the white Grape class. For two bunches (black) Mr. W. Wilson, gardener to H. Cunningham, Esq., Gateacre, was first, and Mr. Bennett second, both showing Madresfield Court. Seldom have Peaches and Nectarines been so well shown, and the judging must have been extremely difficult. In the former, Mr. Stoney defeated Mr. Elsworthy, the winning fruits being a little the riper. The prizetakers for Nectarines were Mr. W. Allmann, gardener to Mrs. Grundy, Warrington, and Mr. Elsworthy, who were first and second. Mr. Stoney was first with a scarlet-flesh Melon, and also for a basket of miscellaneous fruits arranged for effect, and second for six dishes of hardy fruits, the chief place in the latter being accorded to Mr. Hannagan, gardener to R. C. Naylor, Esq., Hooton Hall.

Vegetables were not quite so numerous, but the collections were equal to those of former years. In the classes for twelve varieties and six Mr. J. Hathaway, gardener to the Earl of Lathom, was the chief prizetaker. Mr. Stoney was an excellent second, and secured first honours for eight varieties. Mr. Jno. Pownall was second in this class, and Mr. Craven in the class for six. Peas produced a keen competition, the prize for four dishes going to Mr. W. Mackarell, Formby, for two to Mr. Edwards. Four dishes of Potatoes Mr. Hathaway; two dishes, Mr. J. Norris, Formby. Tomatoes made a good display, the prizes for three dishes and one dish falling to Mr. J. Wilson and Mr. Hannagan respectively.

*Nurserymen's Exhibits.*—One of the features in the nurserymen's exhibits was that of Messrs. Clibran of Altrincham, who had two large stands of blooms of seedling Tuberous Begonias and a large table of hardy herbaceous cut flowers. The Begonia blooms were remarkable for the size, excellent form, and varied colouring. Selfs, whites, yellows, Picotee edged, and salmon colours were especially fine. A certificate of merit was awarded. The Liverpool Horticultural Company had a circular bed of Tea Roses in pots and Grape Vines, all in the best of health (certificate). Mr. Eckford of Wem, Salop, had delightful varieties of Sweet Peas (certificate). Mr. Lindsey, gardener to Sir J. Edwards Moss, Bart., Otterspool, exhibited a fine basket of his new bedding Pelargonium, Clara Lindsey, a sport from Happy Thought. It is a dwarf grower, the zone in the leaf well defined, and flowers freely; the colour of the flowers blush (certificate). Messrs. R. P. Ker & Sons, Aigburth, had the same honours conferred for Croton Golden Ring, Pteris Victoriae, and Dracæna argentea striata, all new plants, as had also Mr. John Forbes, Hawick, for Pansies, Pentstemons, Begonias, and Dianthus Napoleon III.; Messrs. Alexander Dickson & Sons for a new Rose, Duchess of Fife; Messrs. Harkness for a new Rose, Alice Perkins; Messrs. James Cocker & Sons, Aberdeen, for a new Rose, Duke of Fife; Mr. Smout, Hastings, for Seaweed flowers; Wm. Kneale, Woolton, Verbena Hill Cliff Scarlet; M. Hodgkins, Manchester, skeleton leaves; Isaac Davies & Son, Ormskirk, var. Lilium auratum; R. Ashcroft, West Derby, seedling Ferns; H. C. Stott, Co. Manchester; A. Mason, Shipley; and John Webster, Wavertree, for greenhouses; P. M. Row, heating apparatus; and T. P. Bethell, cardboard boxes. The Chairman, Mr. White; Vice-Chairman, Mr. Powell; Mr. Bridge, Sec., and the Committee deserve all praise for the completeness of the arrangements.

#### SOUTHAMPTON.—AUGUST 1ST AND 3RD.

In some respects the Show held on Saturday and Monday last by the Royal Southampton Horticultural Society was superior to any hitherto seen in their grounds at Westwood Park. A great improvement was noticeable in the miscellaneous groups, and the seven groups arranged presented a charming appearance. Specimen stove and greenhouse were excellent, while fruit, vegetables, and flowers were of superior quality. Mr. C. S. Fudge and his Assistant Secretary, Mr. H. Dallison, deserve

a word of praise for the admirable manner in which all the details of the Show were carried out.

*Specimen stove and greenhouse plants.*—The principal class was that for six flowering and six foliage plants, distinct, which brought five competitors. Mr. Jennings, gardener to W. Garton, Esq., Roselands, Southampton, made a most successful *débüt* by defeating that veteran Mr. J. Cypher in a fairly easy manner. The premier plants were particularly fresh. A huge *Latania borbonica*, in perfect health; *Cycas revoluta*, *Kentia Fosteriana*, *Crotons Warreni* and *Disraeli*, *Ixora Williamsi*, *Stephanotis floribunda*, freely flowered; and a magnificent specimen of *Allamanda Hendersoni*, bearing fully 300 blooms, were especially noteworthy. Mr. Cypher, Cheltenham, was second; Mr. E. Wills, Shirley, third; and to Mr. F. Mould an extra prize was awarded. For ten stove and greenhouse specimens the competition was confined to gardeners only. Mr. Blandford, gardener to Mrs. Haselfoot, Moor Hill, Bitterne, was the most successful, having admirable examples of *Bougainvillea glabra*, *Allamanda Hendersoni*, *Ixora Fraseri*, *Erica æmula*, and *Latania borbonica*. Mr. J. Amys, gardener to the Hon. Mrs. Elliott Yorke, Hamble Cliff, Netley, was a good second; Mr. W. Peel, gardener to Miss Todd, Shirley, third. For six specimens (open), Mr. J. Cypher easily led, showing *Erica Parmenteriana*, *Ixora Williamsi*, *I. Pilgrimi*, *Cycas undulata* and *C. revoluta*. Mr. J. Currey, gardener to Colonel Pepper, Milford Hall, Salisbury, was second; and Mr. Blandford third. There was still another class confined to gardeners, for six specimens, not less than three flowering. Mr. Currey won premier honours, followed by Mr. Innes, gardener to Miss Buchan, Wilton House, Southampton.

The best Orchids arranged with small Ferns came from Mr. Blandford, who staged among others *Odontoglossum Harryanum*, *O. Alexandræ*, *Dendrobium moschatum*, *D. Deari*, *Lycaste aromatica*, and *Cattleya gigas Sanderiana*. Mr. Carr, gardener to W. A. Gillett, Esq., Fair Oak Lodge, Bishops' Cleeve, was second. The best single specimen Orchid (not to be a made-up plant) was *Cattleya crispata*, with seven spikes, from Mr. J. Evans, gardener to Lady Ashburton, Melchet Court, Romsey, Mr. Cypher being second with *Cattleya Gaskelliana*. Stove and greenhouse Ferns were well represented, Messrs. Peel, Jennings, and Amys securing the prizes in the order named. Tuberous Begonias, both double and single, from Messrs. Berry, Wills, and Innes, made an extremely bright display. Some capital plants of *Celosia pyramidalis* won for Mr. West, gardener, Northlands, Salisbury, the leading position. They were 4 feet high and 3 feet across, the colours very rich. There was strong competition in the class for plants for dinner-table decoration. Mr. Waite, gardener to Colonel the Hon. Mr. Talbot, Glenhurst, Esher, took leading honours, and Mr. Wills was second, both staging plants well suited for the purpose.

Groups of miscellaneous plants, arranged for effect in a space of 120 square feet, were, as previously stated, a grand feature of the Show. Seven competed. Mr. Wills was a good first, the base of his groups being the usual groundwork of Maidenhair Fern arranged in mounds, from which arose Palms, Crotons, Caladiums, *Eulalia japonica*, *Franea ramosa*, Orchids, and Lilliums. The chief point about this group was its entire freedom from "packing," which is so often objectionable. Without a doubt this group was the best ever seen in Southampton. Mr. Carr was a capital second. Many choice Orchids added to the beauty of the arrangement. Mr. Peel followed closely for third place. Mr. Ladham, Shirley, was fourth, who employed with good effect many hardy plants in his arrangement.

Cut flowers were numerous staged. For twenty-four Roses, distinct, Mr. S. G. Rumsey, Waltham Cross, was first; and for half that number Mr. Neville, gardener to F. W. Flight, Esq., Twyford, Winchester, was first. Leading honours were conferred upon Messrs. Perkins & Sons for both ball and bridal bouquets, Messrs. W. & G. Drover, Fareham, being second in each class.

Fruit made an extensive display. For six dishes (Pine excluded) there were eight entries. Mr. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, was an easy first with very fine Black Hamburg and fairly good Muscat of Alexandria Grapes, Tedworth Favourite Melon, a large highly coloured fruit; Lord Napier Nectarines rich in colour, and Walburton Admirable Peaches and Brown Turkey Figs. Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome, Somerset, was second; and Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, third. For six dishes of outdoor fruit eight competed, the best coming from Mr. R. West, consisting of very fine Gooseberries, Raspberries, Cherries, Currants, and Rivers' Early Plums. With three bunches of any black Grapes Mr. Inglefield was easily first with Black Hamburg good in every respect; Mr. T. Hall, gardener to the President, S. Montagu, Esq., South Stoneham House, Southampton, second with Madresfield Court, large bunches, highly coloured but somewhat uneven; Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rooksbury Park, Wickham, third. For the same number of white bunches the last-named exhibitor was placed first with Muscat of Alexandria, fine in the berry, and nearly perfect in colour; Mr. J. Budd, gardener to F. Dalgety, Esq., Lockerby Hall, Romsey, second, and Mr. Inglefield third. Mr. Iggulden succeeded in taking the first prize for two bunches of black Grapes with Madresfield Court, small, but perfect, Mr. Allen second. In the corresponding white class Mr. Evans was first with good Muscats, followed by Mr. S. Wilkin, gardener to Lady Theodora Guest, Inwood House, Henstridge, with Golden Champion, Mr. Allen third. Single bunches of black Grapes were contributed by seven persons; the best was Black Hamburg from Mr. Inglefield, the second the same variety from Mr. Iggulden; third, Madresfield Court from Mr. Hall.



In the corresponding class for white Grapes Mr. Inglefield was first with a solid, well finished bunch of Muscat of Alexandria, Mr. N. Molyneux second, and Mr. Budd third.

For one Pine Apple Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, Richmond, was first with a well ripened Queen, Mr. Ward second with the same variety. Peaches were a strong class, fourteen dishes being staged, the best highly coloured fruit of Royal George from Mr. G. Garner, gardener to Mrs. Braddyll, Amberwood, Christchurch. Second, Mr. Inglefield, with Walburton Admirable; third, Mr. Allen. Mr. Ward had the best Nectarines, a very fine Pineapple; Mr. Waite followed with Elruge; and Mr. Amys with Pineapple.

Vegetables were very fine indeed. For ten distinct varieties Messrs. Pope, Waite, and Wilkins were adjudged the prizes in the order named. Mr. Inglefield took the lead with eight varieties, having very fine produce; Mr. N. Molyneux second; Mr. Allen third. Space forbids mention of many other exhibits in the vegetable section, which were of high quality.

Messrs. Keynes, Williams & Co., Salisbury, besides an extensive show of Roses and Dahlias of the florist type, had an attractive box of Cactus Dahlias, of which the following three received first-class certificates:—Baron Schröder, Lady Pembroke, and Dr. Masters.



#### FRUIT FORCING.

**PINES.**—*Cleaning Houses and Beds.*—These are essential to high produce, therefore clean all houses as they become vacant before being occupied again with plants. Bottom heat is essential to speedy and certain work in Pine culture, hence the first thing to be seen to is the bed. If bottom heat be afforded by hot-water pipes the material forming the bed, whether of tan or leaves, should be removed at least once a year, or insects, particularly woodlice, rapidly increase; the material also harbours other predatory vermin. All brickwork may be scalded and brushed with hot limewash, the wood and iron work with soap and water thoroughly cleansed, using a brush, keeping the soapy water as much as possible from the glass, which should be cleaned inside and outside with water only. If necessary the wood and iron work may be painted, and the roof made as watertight as practicable. Beds that are chambered, having the hot-water pipes covered with slate or other material, are much in advance of those surrounded or passing through beds of rubble. Those composed of the latter should be turned over, and any dirt or small parts removed to allow the heat given off by the hot-water pipes to penetrate evenly through the whole to the bed. Provide fresh tan in other cases, and if wet turn it occasionally on fine sunny days. With hot-water pipes beneath about 3 feet depth of tan is ample, more will be needed where such aid is not obtained.

*Potting.*—Suckers started in June will soon fill their pots with roots, and must be shifted into a larger size before the roots become closely matted together. Queens should have 9 or 10-inch pots, and those of stronger growth 11-inch pots. Water the plants immediately after potting, and plunge them in a bed having a temperature of 90° to 95°. There is no greater mistake in growing Pines than crowding young plants, as they become drawn and weakly instead of having a sturdy base. Attend to the bottom heat of beds that have been recently disturbed or upset by the removal or replacing of plants, not allowing the heat to exceed 90° at the base of the pots without immediately raising them, as too much heat will disastrously affect Pines bearing fruit or those having the pots filled with roots.

*Routine.*—Examine the plants for watering about twice a week, and maintain a moist, genial, well-ventilated atmosphere. The climatic conditions are now so favourable that Pine plants grow vigorously; therefore discontinue shading, admitting air plentifully when the temperature ranges from 85° to 95°, affording to fruiting plants a night temperature of 70° to 75°, and to succession 65° to 70° at night. Reserve, if possible, more for starting at the commencement of September.

**FIGS.**—*Early Forced Trees in Pots.*—Immediately the second crop of fruit is gathered examine the trees for red spider and scale, as keeping the soil somewhat drier at the roots and the drier condition of the atmosphere consequent on a free circulation of air encourages these pests. They are almost certain infestors of Fig trees in heated structures, and however alert the cultivator may be, these enemies get ahead during the ripening of the fruit; therefore, when that is cleared off the trees, recourse must be had to cleansing, and as the foliage and wood is far advanced in ripening, destructive agents may be employed at a strength which would not be safe at an earlier stage. If, therefore, these pests have made undesirable progress, it will be advisable to syringe the trees with a petroleum mixture, one-third half-pint or wineglassful of petroleum to four gallons of water, in which 8 ozs. softsoap has been dissolved, with 1 oz. soda, whilst boiling, one person stirring the mixture briskly with a broom-handle whilst another applies it to the trees with a syringe, so as to thoroughly wet every part of the tree, the under as well as the upper side of the leaves and all the wood. To prevent the mixture soaking into the soil a little dry moss may be tied round the stem, and

then a sort of pyramid of the same placed about the plants. If the wood is badly infested employ a somewhat stiff brush for freeing it of the scale whilst wet. In bad cases repeat this in the course of a day or two, afterwards syringing thoroughly with tepid water. The trees will only need water to prevent the foliage becoming limp, ventilating to the fullest extent day and night; but protect the trees from heavy rains, which have a tendency to keep the growth active instead of securing that rest so essential for those subjected to early forcing.

*Early Forced Planted out Trees.*—The second crop is ripening and will need a circulation of air constantly, more of course by day than at night. If dull, wet weather prevail, a gentle heat in the pipes makes all the difference between well ripened and insipid fruit. Watering at the roots must be diminished, and syringing discontinued, but a moderate air moisture may be maintained for the benefit of the foliage. If red spider is present and there is heat in the pipes coat these thinly with sulphur, or a good syringing may be given after the fruits have been closely picked, choosing a time when there is a prospect of the moisture not remaining long upon the trees. As soon as the fruits are all gathered the trees may have a good washing with the syringe or garden engine to free the foliage of dust and red spider, otherwise a free circulation of dry warm air should be maintained in the house until the foliage commences falling naturally, and which must not be accelerated by allowing the soil to become dust dry at the roots.

*Unheated Houses.*—Fig trees grown against walls are not always satisfactory, especially in a wet season; but Figs of the highest excellence are grown under glass. To insure a crop with certainty the structures should have a south aspect. The trees must have the roots restricted to narrow borders, one-third the width of the trellis is ample, well drained, and not more than 2 feet deep, composed of good loam of a calcareous nature, rather strong, adding one-fifth of old mortar rubbish, or chalk pulverised by frost, and a sixth of road scrapings. The carboniferous matter is essential to the formation of nitrates in the soil, and sand is an important constituent in building up the structure of the trees. If the loam be light add a fourth of clay marl broken up and intermixed, putting the materials together rather firmly to induce a short-jointed sturdy habit. With unobstructed light and provision for free ventilation the finest Figs may be obtained if the usual attention is given to watering through a light mulch of partially decayed manure, and feeding with liquid manure as required. It is also necessary that the growths be thin, acting on the extension system, but securing by judicious management in stopping a fair amount of spurs, and in no case allow more growths to be made than can have full exposure to light. The fruit is now advanced in swelling, and every pains must be taken to keep the foliage free from red spider. This may be effected by forcible syringing early in the afternoon, but do not syringe if there is no prospect of the foliage becoming dry before night. Under such circumstances damp the border, especially in the afternoon, and occasionally with liquid manure. Admit a little air early, increasing it with the sun heat, maintaining through the day a temperature of 80° to 85° with free ventilation, closing early so as to run up to 90° or 95°, even 100°; and when the sun power is declining a little air may be admitted at the top so as to allow the pent-up moisture to escape, the temperature gradually cooling down. Water or liquid manure, according to circumstances, will be required once a week or oftener in order to keep the soil thoroughly moist. When the fruit begins to ripen lessen the supply of water and discontinue syringing, securing a circulation of air constantly, and freely ventilate when favourable; but sun heat should be husbanded, and will do no harm if the atmosphere is not confined, a little ventilation being given so as to allow of the moisture escaping instead of condensing on the fruit and causing it to crack.

**CHERRY HOUSE.**—The trees are now ripe in wood and plump in bud. The leaves, too, will not be capable of much further effort in elaborating the sap and storing it in the buds and adjacent wood; therefore any undue excitement will cause the trees to start into growth, which must be guarded against by exposing the trees to atmospheric influences as far as the house will admit, which is the best means of averting premature growth, to which the Cherry is liable when forced year after year successively. The border must not be allowed to become parchingly dry, but must have a copious supply of water, and if the trees are weak afford liquid manure. To subdue red spider give an occasional washing with the garden engine or syringe; but by all means remove the roof lights, the cleansing influence of rain and invigorating tendency of dew with the thorough moistening of the border having a very beneficial effect. Black aphides can scarcely be kept long from Cherry trees, but the leaves and wood at this season, from their hard texture, are not inviting to them, yet if they appear promptly use tobacco water or dust the affected parts with snuff or tobacco powder. The narcotic is fatal to these hard-to-be-killed insects. Cherry trees in pots are the most interesting of all fruits grown that way. They offer such a variety and afford fruits over so long a period that it is remarkable they are not more commonly seen. With very slight forcing they ripen in May and afford a succession of fruits up to August. In a house without heat, but light and well ventilated, ripe Cherries can be had early in June, and a succession may be maintained, with proper care, up to late September. Early Rivers, Empress Eugénie, May Duke, Archduke, Governor Wood, Royal Duke, Duchesse de Pallau, Gloire de France, and Late Duke are admirable varieties for pots, and succeed on the Mahaleb. Black Tartarian, Elton, and Large Black Bigarreau are best planted out. Trees in pots must be regularly watered and syringed to maintain the foliage in health as long as possible.



## THE KITCHEN GARDEN.

**LIFTING POTATOES.**—Potatoes generally have made good progress this season, and if disease does not damage them the crops will be exceptionally good. Many of the earliest varieties, notably the Ashleafs, are in most localities fit to lift and store, it being altogether unnecessary, and frequently unwise, to wait till the haulm has died before digging the crops. The tubers being fully grown and the skins fairly well set, draw the haulm and take the first opportunity of lifting, sorting, and storing. Leaving them longer with the haulm intact may be the means of the best portion of the crop being spoilt by disease. If the weather is unfavourable or much other work pressing, merely draw the haulm and wheel away, the feet of the operator being placed on the ridges to prevent any tubers being drawn out, completing the lifting any time before the tubers are required either for use or planting. Never leave newly dug tubers on the ground for several hours, as this, which many consider an indispensable proceeding, is a frequent cause of the tubers becoming diseased, the moist tender skins offering a good home for the disease spores. Nor ought the smallest Potatoes to be saved for planting purposes, the proper course to pursue being to save abundance of medium sized tubers of good form, storing these thinly at once in cool, airy, and light sheds.

**CROPS TO SUCCEED POTATOES.**—When the ground is duly cleared of haulm and rubbish, levelled, and firmed, it is in capital condition for either Strawberries, Lettuces and Endive, Broccoli, Savoys, Chou de Burghley, Winter Spinach, Carrots, or Turnips, and an early clearance of Potatoes admits of any or all of these being secured seasonably. A good supply of late Lettuces is always serviceable, and if such varieties as Golden Queen, Perfect Gem, All the Year Round, Black Seed, Brown Cos, and Paris White Cos are sown at once, a long succession of medium sized hearts will most probably be obtained. None of them will attain their full size, and the seed may, therefore, be sown thinly in drills 10 inches apart, thinnings from the same being transplanted elsewhere. Endive ought already to have been sown, but if the plants obtained are few in number more seed should be sown at once. If the supply must be maintained throughout the winter a second sowing ought always to be made early in August. When large enough thin freely and dibble out the thinnings on good ground. Land newly cleared of Potatoes is frequently too loose to grow hardy Broccoli, but much may be done towards promoting the requisite sturdy growth by heavily trampling the ground prior to planting the Broccoli. Give the latter good room, the rows being not less than 30 inches apart, a distance of 2 feet dividing the plants in the rows. When put out earlier the distances should have been 3 feet and 30 inches respectively. Savoys are very hardy and much appreciated, therefore grow as many as possible. Dibble out the Tom Thumb and other similarly small varieties 12 inches apart each way, 15 inches all round being allowed Early Ulm and Dwarf Green Curled, Drumhead being put out 18 inches apart each way. Chou de Burghley grown to its full size is coarse and far too large to be appreciated. The most serviceable hearts can be obtained by planting now on a firm moderately rich ground, allowing the plants not more than 18 inches each way.

Young Carrots are always preferable to those fully grown, and a supply of these may be had without very much trouble all the year round. Sow more seed of any of the Horn varieties on a warm border at once, in well moistened drills drawn 8 inches apart. The roots may attain a serviceable size without any protection, but would be more likely to do so if afforded shelter later on in the shape of shallow frames or boards and pit lights. If young Carrots must be had constantly, then sow seed in frames on raised beds of old heating materials, not covering these with glass till cold weather sets in. Winter Turnips, of which the best are Veitch's Red Globe, Chirk Castle Black Stone, and Orange Jelly, are also indispensable. Seed of those named, or any other varieties, may well be largely sown in succession to second early varieties of Potatoes. Draw the drills 15 inches apart, and if at all dry water them prior to sowing the seed. The latter being small, and almost certain to germinate, is frequently sown too thickly, the plants greatly weakening each other before they can be thinned out. Dust over the seedlings frequently, and while the dew is on them, with soot and lime in order to preserve them from flea, caterpillars, and slugs. It is somewhat late now to put out Leeks, but during mild winters they rarely cease growing, and a useful crop might result from late planting. They will succeed very well after Potatoes, or on any well-manured, deeply dug, and not very lumpy ground. Form deep wide holes 12 inches apart each way with a blunt dibber, and drop a plant into each, watering them in being all the fixing the roots require. The plants will either fill out the holes or the soil will gradually close in round them, perfect blanching resulting without any further trouble.

**WINTER SPINACH.**—This crop is of such primary importance that it well merits a separate paragraph. Spinach proved of great value last winter, good gatherings frequently being available when no other green vegetable could be had from the open garden. What it requires is a freely manured well pulverised root-run, the preference being given to rather high and not very heavy ground. In many gardens it is absolutely necessary to commence preparing the site for Winter Spinach early in the summer, frequently forking and surface hoeing, adding soot and lime dressings, if the latter has not been used lately, towards sowing time. This extra trouble, in addition to well sweetening the ground, also gets rid of many troublesome insect pests, one very frequent cause of failure being thereby obviated. Either the round-seeded Summer or prickly-seeded Winter Spinach may be sown; both, however, being

much inferior to the Victoria and Monstrous Viroplay for present sowing; the two latter giving the finest leaves, and holding out much longer than the others; the seed being sown not later than the first week in August. Arrange the drills 15 inches apart, 12 inches apart being sufficient for later sowings, and which may well be made once or twice during the month. Sow the seed thinly in well-moistened drills, and cover with fine soil.

**HARDEST BROCCOLI.**—The hardest Broccoli can be had by planting on a newly cleared Strawberry bed, this not being dug. Put out with either a dibber or crowbar, and well fixed at the roots, the solid, yet rich root-run, is bound to promote a sturdy growth, and it is only the short-stemmed plants on somewhat high ground that survive severe winters. Those planted on looser rich ground should be arranged in rows 3 feet apart, and not less than 30 inches asunder in the rows. The stem being the most vital part of the plants, those much drawn up among Potatoes should have their stems heavily earthed, this being better done directly the Potatoes are dug rather than attempting it later on.

## PLANT HOUSES.

**Tree Carnations.**—All the earliest rooted Carnations are growing rapidly and fast filling their pots with roots. They must have weak stimulants every time they need water, clear soot water, or that made from cow manure being good for them; or, better still, artificial manure applied to the surface of the soil at intervals of two or three weeks. If neglected in this respect growth comes to a standstill, and flower spikes appear before they are wanted. Plants that are allowed to become root-bound early in the season are almost certain to come into flower in early autumn long before they are wanted. We have found it a good plan to place into larger pots any that are likely to become root-bound too early. Every care is needed afterwards for a time in watering until the roots are working freely amongst the fresh soil. Later plants may be placed into their largest size, those 6 inches in diameter being suitable. Such varieties as Gloire de Nancy, Souvenir de la Malmaison, and others that are intended for flowering early indoors in 6-inch pots next season should be rooted at once, either by layering or by taking off the cuttings and insert them singly in small pots, placing them under handlights in a cool shady position. The former is the more certain method, and the one we generally adopt, except the plants from which the cuttings are to be obtained are in pots; then they are rooted under handlights. Plants of these varieties that flowered in 6-inch pots and have been well cared for since are now in 8-inch pots, and may be transferred into others 2 inches larger. In this size they will make grand plants, and produce six to eight flower stems each, that will prove either useful for cutting or be objects of beauty in the conservatory. If given greenhouse treatment during the winter they will commence producing their flower stems early, and will be in full flower towards the end of April and throughout the following month without unduly forcing them.

**French and Fancy Pelargoniums.**—Young plants raised from cuttings that were pinched and hardened to cool frame treatment directly they were rooted may now be placed in 5-inch pots. The soil, which should consist of good loam and one-seventh of manure, should be pressed firmly into the pots to insure a firm sturdy growth. These plants may be kept close for ten days or a fortnight, and afterwards grown perfectly cool in frames with the lights off. Pinch the shoots when they have made two or three leaves to ensure their remaining dwarf. The shoots should be pinched when they need it until the last week in August or the first week of the following month, but not afterwards. By this treatment they will have broken into growth again by the time they are in their winter quarters. Old plants that were pruned back early and started again into growth in a frame may now have the old soil shaken from their roots and the plants repotted in fresh soil, placing them in much smaller pots, repotting them as growth extends. These must be kept close for a time until they are rooting freely in the new soil, when they may be hardened and grown under airy treatment. Prune plants that have been well ripened, and start them in a frame until they break into growth. Those that are now going out of flower must be stood for two or three weeks in a sunny position to ripen them before they are pruned back. Harden all young plants raised from cuttings, and then grow them in a cool house, but fully exposed to the sun. Good cuttings may still be rooted, and for this purpose it is better to top the earliest plants than to insert old flower stems.

**Zonal Pelargoniums.**—Those for autumn and winter flowering need liberal supplies of water at their roots, and liquid manure two or three times weekly, or every time water is needed, according to the condition of their roots. The pots in every case should be well crammed, the wood short-jointed and firm. Decaying leaves and flowers as they appear should be removed. Plants that have grown tall may be cut close back, and a good batch of cuttings inserted for early spring flowering. Double varieties should also be inserted for the same purpose, and for yielding a good supply of trusses for cuttings during next May, June, and July, or longer if needed. Insert them singly into 3-inch pots, in which they will pass the winter safely. Cuttings at this season root well either outside or in a cold frame.

**Adiantum cuneatum.**—Where these are grown expressly for cutting they must not be in a close atmosphere, or they will wither directly they have been severed from the plants or exposed to more air conditions. A deep green colour of the fronds indicates too much shade and heat, and will not last. The young fronds on plants well prepared



should have a reddish hue, and those fully developed a light green appearance. This is the result of light airy treatment. Plants that have been grown soft may be prepared to stand well if they are carefully and gradually exposed to light and more air, but they are never so good as those grown under these conditions from the first. The development of the fronds is slower and the plants are longer before they attain a large size, but the main object is attained, and the fronds are fit for use directly they are well developed. In the end it is economy to prepare the plants well for this purpose, for less than half will give greater satisfaction and less trouble than double the number grown under close treatment. Young plants raised from spores in spring and now in 3-inch pots may be placed into 5-inch pots, in which they will develop a good number of fronds before winter, and make large plants another year.

*Davallias*.—For many purposes the fronds of these Ferns are valuable, because they last fresh for a long time. For cutting to travel long distances and last well after they reach their journey's end, no other Ferns are equal to them. These, like *Adiantums*, should not be grown too warm. The majority of kinds suitable for this purpose will do well in the greenhouse during the summer months, but require a temperature of 50° during the winter. *D. bullata*, *D. dissecta*, and some others are not injured in the least by remaining in a cool house the whole of the winter. Although many do well in the greenhouse they will make more rapid progress under intermediate conditions until the plants attain a fair size, or for starting them into growth in spring.

*Pteris serrulata*.—This is a handsome and useful Fern for decoration in small pots, and lasts well in rooms and other positions during the winter. A good number of seedlings now in pans and boxes should be placed singly in 2 and 3-inch pots according to the size most suitable. For grouping purposes we find them serviceable in various sizes from 2 to 5-inch pots; for the latter size two or three seedlings grown together are better than single plants, because they are thicker and better furnished at the base. This will grow in almost any soil and position, provided it is liberally supplied with water. We have usually started them in gentle heat, and when sufficiently developed removed them to cool quarters.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### THE WEATHER.

FROM the middle of July to the end of the month the weather has been of a very unpleasant nature, cold north-westerly winds prevailing, the sky either clear or obscured with leaden clouds. Bees were lying about chilled to death, while the cold winds and burning sun threatened the life of many plants. Of Strawberry runners, for example, on light soil not a single one is rooted. Little rain has fallen, and there is a threatened dearth of that essential. The most disagreeable thing for pedestrians is the blinding dust and small stones forced into the mouth and nostrils by the wind—the result, no doubt, of distant thunderstorms.

#### THE APIARY—SWARMING.

In a number of cases where two queen cells had been left for the purpose of insuring one queen all have swarmed or attempted it. In many instances where the queens of prime swarms were destroyed several ripe queen cells were given them, and although less than a week had elapsed and the hives were not nearly full of comb every one of them swarmed, and the others that had two cells given them were upon a similar footing. Extra room will not prevent swarms issuing. If young bees could be induced to alter their nature and cease raising royal cells swarming might be prevented, but that will never take place so long as bees are bees.

#### EVOLUTION OF THE QUEEN.

Some writers say seventeen days and others fifteen are required, but as far as I have witnessed it takes sixteen full days from the time the egg is laid till the queen is matured and creeps out of the cell. The seal of the cell at that time, after the bees remove the wax covering it, loses its adhesiveness and toughness, and is easily forced open when the queen almost to a minute may be expected to appear on her completion of 384 hours. That is if there be one queen only; if more, the bees, after the queen protrudes her tongue and is fed, seal her up again for some time, as long as eight or ten days more. Then the queen may be liberated on the

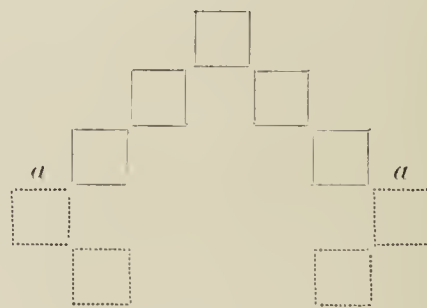
expiry of the fourteenth and live, so that it is no rule to judge by, by the time a queen creeps out of the cell; for at one time they are sealed in longer than their natural time of creeping out, and at others are liberated by the bees before the expiry of the 384 hours. I had several of that nature this year, and they are proving themselves prolific.

#### WORKERS IN QUEEN CELLS.

I discovered a number of queen cells when opened to contain workers, at least they could not be recognised to have partaken any formation of the queen; but as they appeared to have come quicker to maturity than workers do when reared in worker cells, in all probability they would have been confirmed drone breeders, or in other words fertile workers. In previous cases they were so, the cells they were reared in might have been a little less in size than those containing queens, but otherwise no difference could be detected.

#### SETTING BEES AT THE HEATHER.

It sometimes happens that the space for setting the hives at the moors is limited, and the bee-keeper is puzzled how to get all his hives accommodated. That, as well as the position, is of great importance to the well-being of the hives and the safety of the bee-keeper when manipulating from infuriated bees. The wedge or cuneiform is a good way to set hives for the above purposes. Set one looking south-east, then flank it on both sides with another, then repeat with the next, and if a coloured device is used seven hives may stand in one clump. The bees flying straight from the entrance leave the manipulator free in the hollow between the two lines of hives. Thus—



It will be observed by the above plan a return may be made at the angles *a*, provided the situation is favourable, the bees in these two lines looking east by north and west by south, leaving the centre free to the bee-keeper to manipulate all the hives behind the entrances.—A LANARKSHIRE BEE-KEEPER.

### PUNIC BEES—STINGS AND REMEDIES.

As a constant reader of your Journal I have often seen letters from "A. L. B. K." concerning Punic bees, but I do not remember to have seen any notice of any being for sale or disposal in any way for trial. May I ask the writer if he can give any information concerning their temper? Are they as quiet as the generality of other bees when the hives containing them are placed on a garden path, as I do not like to have my work stopped by a horde of savages.

I find that within the last three years, if I am unfortunate enough to receive a sting, the part swells so much that if a hand or arm happens to be the unfortunate part I can scarcely hold a knife or fork, and dressing myself becomes a task indeed. Can you suggest any remedy for it? I invariably rub a small quantity of oil of wintergreen on my hands and arms when manipulating; but occasionally, one bee more spiteful than the rest, will inflict punishment on me; in that case I have applied some chloroform with only partial success. On Monday last I took eighteen 1 lb. sections of beautiful honey from one hive.—G. E. B.

[The temper of my Punic bees seems very mild—so much so, that although I have frequently lifted the frames out without any precaution I have never received a sting; nor have I been able to induce them to sting when using the means that would rouse other varieties into little furies.

Crossed Punics, unlike other crosses, do not partake of the spitefulness of some sorts. When the above letter came to hand



I was examining a tumbler containing eight queen cells of pure Punic, partly raised by Carniolians, then transferred to a crossed Punic hive. When I lifted it up the bees flew about and ran over me, but not one offered to sting. These cells are close upon the time for the queens to creep out, and as I wish to save some of them they must be watched.

There is a great deal in the way of moving near bees, also in the way of handling them, so as to keep them peaceable. The right method must be acquired by experience. A quiet but firm demeanour should be maintained. No part of the dress should be loose or dangling, nor should bees have access to any honey or other sweets outside their hives. Weeding or stirring the ground near them is very irritating to bees; even cutting flowers has to be performed with caution. When manipulating, if the bees are subdued before any fly out, there will be no stinging, and carbolic acid is the safest and best quieter in my apiary, but I do not touch the bees with it.

Carniolians are mild tempered, and with ordinary care do not sting; but unfortunately it appears to be difficult to secure the pure race, and then they are savage.

The best remedy for stings is to induce strong perspiration, inhale sal volatile, also rub the part stung with it, or camphorated olive oil, this being better if heated. It is cheering to hear of honey being obtained. In this quarter it is almost nil, but in some parts of Scotland large yields have been secured. There is only one importer of Punic bees, and from the inquiries I have about them I think he should advertise them.—A LANARKSHIRE BEE-KEEPER.]

#### TRADE CATALOGUES RECEIVED.

G. E. Elliott, 97, Bradford Road, Huddersfield.—*Select List of Bulbs, Roses, &c., 1891.*

Little & Ballantyne, Carlisle.—*Bulb List, 1891.*



All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**The Tomato Disease** (*S. T. D.*).—There is reason to suppose that the resting spores of the fungus may be retained by and conveyed with the seed. This we have no doubt has been so in your case, and it is most imprudent to save and distribute seed from disease-stricken plants.

**Seedling Begonias** (*R. B., Wakefield*).—The larger of the two blooms is very good and the smaller attractive. The varieties are worthy of preservation for home cultivation. You can name them if you like, but as superior forms are in commerce, even the best of your seedlings, judging it by the bloom before us, does not possess commercial value.

**Name of Insect** (*E. B.*).—What you forward is the pupa or chrysalis of one of the soldier flies (*Stratiomys chameleon*), an insect allied to the gad and breeze flies, not uncommon in some districts. The larva or grub lives in shallow waters, and there floats head downwards, taking in air by means of a curious telescope tail or appendage. When it becomes transformed into a pupa this still remains attached to the insect, though somewhat altered in form.

**Insects on Torenia** (*T. F.*).—You ask us to reply under your initials, and we do so as near as they can be deciphered. We think we know to what insect you refer. If you can send us specimens to arrive in good condition they shall be examined. The others were totally shrivelled. Mr. W. Bardney, we think, has had much trouble with a similar pest, and his experience in subduing it might be useful. We will communicate with him on the subject. There is no certainty

that the article to which you refer will accomplish the object you have in view.

**New Chrysanthemums** (*Contributor*).—We cannot approve of the practice that appears to be growing of possessors of new Chrysanthemums, or anything else, sending examples to their friends who are contributors to horticultural journals, and thus, in that roundabout way, getting the varieties introduced to the public. Meetings of the Royal Horticultural Society are held at intervals throughout the season, to which new or notable varieties can be sent direct; and they can also be sent direct to the editors of gardening journals, who exercise their discretion in dealing with them. For the reasons indicated the notes on flowers you have not grown cannot be inserted.

**Abnormal Foxglove** (*C. L. M.*).—The photograph which you have obligingly sent represents a variety of Foxglove, the terminal flower of which is unusually large and of campanulate form. We have seen many



FIG. 19.—A PECULIAR FOXGLOVE.

similar examples, one of the best of which we had engraved, and it is correctly shown in the illustration (fig. 19). We do not know whether your flower was as large and well marked as this one, the photograph being too small for displaying its characters.

**Repotting Roses** (*F. E. G.*).—As you do not describe the plants we simply tell you what Mr. William Paul says in his useful little work on the cultivation of Roses in pots. "This operation may be performed at any season of the year. When the pot becomes crowded with roots the plants should be repotted. It is our practice to glance over the stock occasionally in the summer months, and whenever a plant is observed growing vigorously it is at once removed to a larger pot. But it is of the general repotting that we would now more especially speak. Every plant should be repotted at least once a year, and the most advantageous time is perhaps September. A good portion of the old soil should be shaken away in the operation; all wild suckers should be eradicated, worms withdrawn, and such plants as require it placed in larger pots."

**Name of Caterpillar** (*G. S.*).—What you send is the caterpillar of the puss moth (*Dicranura vinula*) which is found not uncommonly upon



the Willow, Poplar, and occasionally the Ash, during the summer months. It is a curious creature, for in its position of repose it assumes a menacing attitude, lifting the front segments of the body, and it has the power of ejecting, from a slit below the mouth, an acid fluid, which it directs towards any object by which it is annoyed or alarmed. Also the tail is furnished, as you may have noticed, with two menacing (in appearance) horns, containing inner horns or tentacula, but these have not any ability to inflict a wound, though seemingly barbed. During the winter this insect is in the chrysalis or pupa state; the moth, which is fat-bodied, white, and downy, emerges in May and June. The popular name was probably suggested by the resemblance of this to a white cat, but the young caterpillars have a singular likeness to a miniature black kitten.

**Pruning Fruit Trees** (*J. W. Sutton*).—Not only Apple and Plum, but also all other fruit trees, should be relieved of superfluous growths at once. Overcrowding fruit trees and bushes, which too often resemble a wild thicket of growths in summer, then pruning them severely in the winter only, is the best method that can be adopted for preventing good crops of fruit. If Vines were treated in that thoughtless manner what sort of Grapes do you think would follow? Hardy fruits must be managed on the same principles that Vines are by the best growers—in the full exposure of the leaves towards the base of the laterals to light all through their career to render the trees the most productive. Branches may be safely and beneficially cut from overcrowded fruit trees now, and the summer shoots shortened except where required for extension and furnishing the trees. The precise extent of shortening cannot be stated in the absence of exact knowledge on the condition of the trees.

**Soot Water** (*H. J.*).—Gardeners make this by tying soot in an old sack or a piece of rough canvas and suspend it in a tub of water, with the aid of a stone at first if the soot does not sink so quickly as they wish. The water soon becomes discoloured, and is dark or light according to the relative proportions of the soot and the water. Usually about a peck of soot is placed in a 40 or 50 gallon tub, and as the liquid is taken out more water is added, until the virtues of the soot are extracted, the bag being eventually shaken or squeezed to aid the extraction if necessary. Soot water should be perfectly clear, and may be clarified by adding some lumps of lime, stirring well, then allowing all particles to settle to the bottom, and scum to form on the surface, and this skimmed off the soot water is clear. We have often used it much diluted for syringing purposes beneficially, and it has left no sediment. As a liquid manure it should be diluted to about the colour of pale ale, for syringing it should be paler still. Insects do not like it, while it is beneficial to many plants and trees.

**Cucumber Plants Diseased** (*S. G. R.*).—The leaves are poor and thin, the shoots weak, otherwise healthy looking, but the collar of the plant is contorted, swollen, and slightly cankered, which the application of sulphur may have arrested, drying and hardening the surface. This part of the stem contains granular matter, due to stem "eelworm," probably *Gleetus granulosus* of Dr. C. Bastian, but there is evidence of the acuter form of eelworm in all parts of the plant—namely, *Tylenchus (vibrio) devastatrix*, *Kuhn*, delineated by Dr. J. Ritzema Bos, State Agricultural College, Wageningen, Netherlands, but the late Rev. M. J. Berkeley originally described these nematoid worms (vibrios), and they are portrayed by Mr. W. G. Smith in the *Journal of Horticulture*, vol. xxxiii., new series, page 74. It is the identical species which causes Clover "sickness," but the commoner form of attack is on the roots, as seen in the nodules or galls in those of your plant, and faithfully represented in the figure before alluded to. These nodosities are of doubtful origin. They are produced by all nitrogen gatherers, as the Pea, Bean, &c., and are common on Gardenia, Cucumber, and Melon roots. Some fungi, such as *Ustilago*, produce similar protuberances, and one of these, *Ustilago cucumis*, is believed to be the cause of the Cucumber disease for which sulphates are said by experimentalists to be an excellent remedy. Those taking the fungoid view (and they are sometimes present together, but the fungus generally has priority, so far as we have observed) recommend 2 cwt. sulphate of iron per acre, which is about 1½ lb. per rod, or ¾ oz. per square yard. This is best applied mixed with dry powdered clay, say 8 ozs., thoroughly mixed, and disposed on the surface when the soil is wet. Half quantity is less effectual, or the full quantity applied at twice, therefore apply it as one dressing. It may be used for mixing with the soil before putting in the plants, the quantity named per yard being mixed with three bushels of soil. We have never known heating the turf to 212° to fail in destroying parasitic germs, the turf being cooked in an oven or over a wood fire, in the latter case mixing one-twelfth of wood ashes with the turf. Mr. Willis, at Rothamstead, Herts, found a mixture of sulphate of potash, 3 cwt., and sulphate of ammonia, 1 cwt., per acre [about 3 lbs. per rod, or 1½ oz. per square yard] had a good effect on "stem-sick" Clover. We recommend the following mixture:—Steamed bonemeal, 5 parts, sulphate of potash, 3 parts, and sulphate of ammonia, 2 parts; mix, and apply at the rate of 5 cwt. per acre, 3½ lbs. per rod, or 2 ozs. per square yard. Apply to outdoor crops or Clover, and cereals subject to "tulip-root," which is caused by an identical species—namely, *Tylenchus devastatrix*, during moist weather in late March or early April. For "disease" in Cucumbers the mixture may be used at the time of planting, using the 2 ozs. on every square yard of surface, and 1 foot deep in the soil, repeating when the plants are showing fruit. Preferably double the quantity may be mixed with soil at the time of chopping up the turf, say 4 ozs. to each

barrowful of soil. We use, however, steamed bonemeal 1 pint, soot 1 pint, wood ashes 1 quart, to a bushel of soil, and find the mixture beneficial; less being used when the soil is rich and there is no fear of grubs or wireworm, for which a tenth of quicklime mixed with soil a few weeks in advance of using is preferable. The lime is essential to nitrification, and that produces ammonia from organic matter, the ammonia is oxidised and becomes nitric acid, which combines with potash, soda, and lime to form nitrates of those substances, and these are soluble and become plant foods, in which your soil, although turf, and containing nitrogen, is manifestly deficient. Try the dressing of steamed bonemeal, sulphate of potash, and sulphate of ammonia as a top-dressing, and let us know the result. We have known a good top-dressing of dissolved bones (effected by wood ashes) completely cure Cucumbers of "stem sickness" or "eelworm;" also Melons that would not set their fruit did so freely when treated with superphosphate.

**Diseased Tomato Plants** (*Idem*).—The plants are perfectly clean and healthy at the roots, free from tubercles and distortion, as the results of attack by "eelworms" (*Tylenchus* or *Vibrio devastator*); but the stem is of a black-green colour, and the foliage of a dark leaden hue, so indicative of predisposition to attack by the Potato and Tomato disease, *Phytophthora infestans*; indeed, some of the older leaves have had their juices abstracted by the mycelium of the fungus. There is no remedy but to remove the leaves showing grey or brownish specks and burn them, and at once dress the plants thoroughly with the following mixture:—Dissolve 1½ ounce precipitated carbonate of copper in a pint of liquid ammonia; of this one fluid ounce should be mixed in a gallon of rain water and sprayed on the plants, thoroughly moistening them in every part—stems and leaves, particularly on the under side of the latter, taking care to have the foliage dry, and to keep it dry afterwards, maintaining moisture by damping available surfaces in the morning and at closing time, using liquid manure occasionally in the evening, say the drainage of stables diluted with five times the bulk of water, or urine also mixed with water, or guano may be used, 1 lb. to 20 gallons of water, for damping surfaces other than the plants, using about 3 gallons to a square rod of surface (30¼ square yards). This will encourage growth in the plants, prove inimical to red spider, and the soft genial glow of moisture will cause the spores of the fungus to germinate, and the ammoniacal carbonate of copper, as a thin film on the foliage and stems, will speedily effect their destruction, preventing their tubes pushing through the stomata of the leaves into the tissues. The ammoniacal carbonate of copper solution is equally effective against *Cladosporium lycopersici*, or Tomato "scald," figured in the *Journal of Horticulture* July 16th, 1891, page 57. This fungus also attacks the leaves and stems as well as the fruit, the latter represented in the engraving alluded to. The fungus (*Phytophthora infestans*) ought to have been attacked sooner, the house being kept moderately dry and freely ventilated. The carbonate of copper (precipitated) is prepared from sulphate of copper, a formula for its preparation being given in the *Journal of Horticulture*, June 18th, 1891, page 493. If the solution is syringed on it must be done very lightly, but spraying is much better, repeating it in twelve to fifteen days, and spraying all fresh growths as a preventive, for it must be distinctly understood that the remedy, so called, is altogether preventive. Once the mycelial threads have passed and become seated beneath the epidermis of the plants, nothing short of the destruction of the affected parts will destroy the fungus. The dark metallic hue of the leaves and plants and the appearance of minute grey specks on their surfaces is the latest time at which the remedial measures can be used effectively, and they ought to precede rather than follow infestation. If inconvenient to use ammoniacal carbonate of copper solution you may employ the anti-blight, which has been advertised, as it is equally efficacious, and does not injure the foliage when used discreetly, and in accordance with the directions. It is a powder, and distributed by means of bellows, the "Malbec" being the most useful and handiest for applying the powder to the under side of the leaves, which is an absolute necessity in the case of plants, as the Potato and Tomato, liable to attack by the fungus *Phytophthora infestans*. To prevent its attacks the plants should be dusted not later than when the flowers show, but the Potato and Tomato disease does not generally infest those plants before early July, beyond which time it is not safe to leave them undressed. Potato haulm—all the plant—should be dusted on the under side of the leaves as well as the upper surface, but more particularly the under side, and preferably whilst damp, as in the early morning, or after rain with a prospect of fine weather. Anti-blight is a remedy for mildew (*oidium*), also *cladosporium* or "scald," and it does not injure the tender foliage of Vines, cause Grapes to rust or spot, and it is a preventive of *Peronospora viticola* (the downy mildew, grey rot, and brown rot), so injurious to the Grape Vine in the American vineyards, also on the continent, and making its appearance in this country. Anti-blight, like all copper remedies, requires to be used in advance of fungoid infestation, for its work is wholly preventive as regards *Phytophthora infestans* and *Peronospora viticola*, for these work within the host (Potato and Tomato), and must be destroyed (if at all, or without killing the plants infested) before or when their germinal tubes are piercing the epidermal tissues. The "mildews" are external, and can, therefore, be reached by the ammoniacal solution of copper carbonate or anti-blight, and at once destroyed. The plants are very weak. Dress them with superphosphate 5 parts, nitrate of potash 2 parts, mix, and apply at the rate of 2 ozs. per square yard, and work in lightly. Repeat the superphosphate (2 ozs.) only in three weeks, and if vigour is wanted use along with it nitrate of soda, 1 oz. per square yard.





## STAGING FRUITS AT EXHIBITIONS.

ALTHOUGH a few of the early fruit shows are over the real campaign amongst fruit growers has just begun, and during the next two months many a valuable prize will be fought for, and perhaps won by growers already known to fame unless some new aspirant to honours succeeds in snatching victory from their grasp. Many beside those actually engaged in the contests will eagerly read the reports of shows to see how their old friends or opponents pass through the ordeal. I for one shall watch with a keen interest the fortunes of many of my gardening friends, who are readers of and writers to the *Journal*, and whom I have been wont to meet each year at shows. I shall watch with the hope that they will still retain their position of prominence in the prize list, and I also hope that the hints given below will prove useful to many who require information on the subject.

Valuable prizes are often offered for collections, which form important features at shows. It is important, therefore, that in addition to growing the fruits well they should be placed before the judges in such a way as to show off their good qualities to the best advantage. Judges in these classes often have great difficulty in awarding the prizes on account of one or two exhibits being exceedingly close in point of merit; in such cases superior staging is enough to turn the balance. The first thing to be attended to is to see that plenty of leaves are in readiness. Nothing answers better for this purpose than medium-sized Vine leaves for the majority of fruits, there being a few exceptions where coloured leaves are an advantage, and Strawberries should always be arranged on their own foliage. Where Vine leaves cannot be obtained good in colour or of sufficient texture, Sycamore, Plane, or Mulberry leaves answer very well. Having placed the leaves ready to hand and secured the requisite number of plates on which to arrange all kinds of fruits with the exception of Grapes and Pines, the whole number of plates should then be prepared. Those intended for Peaches, Nectarines, Figs, Apricots, Plums, and similar fruits will require some soft material such as paper shavings, moss, or cotton wool, but I prefer the first-named, as it is soft without being springy. Place a handful of this in the centre of each plate so as to bring it up slightly above the outer rim and gradually slope toward it, then cover the plate with leaves, letting each overlap the other slightly so as to form a fringe round the edge of the plate. Proceed with the others in the same way till the whole are ready, and as each dish is finished place it on the top of the last; this will economise space and keep the leaves in position.

For Cherries and Strawberries, unless an unlimited number is allowed, only a small quantity of material should be placed in centre of the plate, so that when covered with leaves the centre will be slightly below the inner rim; this will prevent the outer row of fruits at the base slipping out of position as the work proceeds, as it is anything but pleasing when a fine shapely dish of Cherries is almost completed to find it suddenly collapse. I have seen many ways of building up fine even cones of Cherries (which when well done are always effective in collections), but the simplest and best of all methods in my opinion is to fill the centre with slightly withered Cauliflower or Strawberry leaves as the work proceeds. The Cauliflower leaves should, of course, be pulled into small pieces. Begin by placing a ring of fruits close round by the inner edge of the plate with the stalks pointing inwards,

a layer of leaves then placed over the stems in the centre keeps them in position and brings the centre up to the right height for the next ring of Cherries, and so on, making each ring a little smaller in circumference than the last, taking care to keep each row even and correct in outline as the work proceeds. By following these directions handsome cones may be built up. Where large dishes of unlimited quantity are admissible the centre of the plate should be filled up much higher to begin with, and the first row of fruits placed near the outer edge of the plate. When one has the pleasant task of dishing up large well-coloured fruits of Peaches and Nectarines, after the plates are prepared as directed, it is an easy matter to place the finest in the centre, and the others forming a ring around it, taking care to let each fruit stand quite clear of its neighbour, as a perfect specimen never looks so well as when seen all around. Sometimes good fruits have portions near the base which are not well coloured. The damaging effect this might have in the eyes of the judges may often be prevented by rolling up a small piece of leaf and placing it under the fruit, so as to show up the greatest portion of the best side of the fruit, and by skilfully arranging a few leaves around it.

Pine Apples look well when placed in tins specially made for the purpose, and painted green; but an ordinary flower pot 6 or 7 inches in depth, with the drainage aperture made about double the usual size, answers almost as well. The pot should be neatly covered with a double thickness of tissue paper, be inverted, and the Pine cut with an inch of stem placed on the top of the pot, the stem fitting into the hole, keeps the fruit in position.

Figs, if not highly coloured, are improved in appearance by placing a few tinted leaves around them—leaves of *Ampelopsis Veitchi* or *Gros Guillaume* Vine answer the purpose admirably. When Figs are of good form and colour, with short footstalks, they should be placed quite apart from each other on the plates, so as to show off each fruit to advantage; but when, as is often the case with large fruits of some varieties, the footstalks are long, arrange them in a circle so that they meet each other in the centre, a few leaves can then be placed over them, and one or two fruits, according to their size, placed on the top of the footstalks the stems of these central fruits pointing downwards and being covered with leaves gives to the dish a finished appearance.

Plums, Apples, and Pears staged with collections of fruits are generally of superior quality, as large a portion of them as is possible should therefore be fully exposed to view. They can be arranged in the same way as Peaches, with the exception that the distance apart must be regulated by the size of the fruits. Melons, if round in form, may be placed in an upright position with the stem uppermost, but oval shaped fruits should be laid lengthwise on the plates, and their appearance is often improved by placing cotton wool covered with leaves underneath, so as to raise one end enough for the fruit to form an angle of 45°, the best portion of the fruit then “catches the eye.”

After all the small dishes have been arranged they must be carried to their respective classes. I will here explain what I should have mentioned previously, that whenever single dishes of fruit are exhibited as well as collections they should be dished up at the place reserved for the collections. This enables the exhibitor to keep them all under his eye, and he can the better select the best dishes where he has duplicates for the strongest classes. Having placed the single dishes in their respective places the work of arranging the separate dishes to form the collections into an effective group must be pushed on. The last dishes that old showmen generally bring out are their Grapes, and many anxious eyes are often fixed upon them when they are staged, as it is well known that high class Grapes deservedly have great weight with the Judges. When collections of eight or ten dishes are shown, black and white Grapes on either side with the Pine in the centre



usually forms an effective background, and no fixed rules can be laid down as to where the other dishes should be placed, so much depends upon taste. When taking the last look round, count carefully the number of dishes and see that each dish contains the right number of fruits. I have known more than one fine collection of fruit disqualified for not having the right number of fruits in one dish when there was every prospect of its securing the premier position, and others who have fallen into the same error have sometimes narrowly escaped the same calamity.—H. DUNKIN.

### TUBEROSES (POLIANTHES TUBEROSA).

THE above sweet-scented flower is a general favourite for nearly all purposes. It is suitable for buttonholes, sprays, bouquets, wreaths, &c., either as single-wired flowers or in its natural condition if the spikes of flowers are not too large; but the custom is to wire each flower, and then use them either singly or in greater number as required. The flowers nearly always being carried on stems 2 or 3 feet above the foliage, the plant as a single specimen is not a great success, but it lends itself to arrangement in groups, its tall flower stems assisting to relieve any stiffness or formality. If three or more bulbs or tubers are placed together either in the first instance or turned out of small pots into pots 6 or 8 inches in diameter, the Tuberose then becomes an object not at all despicable as a specimen plant, and may be so used in rooms where such sweet flowers are desired and their stiff appearance mitigated. When nearly all the flowers on a spike are expanded, the spike may be cut with a considerable length of stem and so used as cut flowers amongst other flowers if so desired, the stalk being cut to any length to suit the respective glasses. When several hundreds of tubers are grown and successfully flowered, a few spikes may be cut in their entirety and used for the above purpose without being much misused; but, of course, if only a dozen or so tubers are potted the proprietor, as a rule, does not like to so cut them, but prefers to retain the flowers for the greatest possible length of time.

The Polianthes, commonly called Tuberose, is allied to the Hemerocallis, Funkia, Aloe, and Haworthia, the two latter being frequently, though erroneously, called Cactus. It was originally introduced into this country from the East Indies in 1629, both the single and the double forms, the latter being the one generally cultivated and the subject of this note. Another species, *P. gracilis*, was introduced at the same time. It is now (*P. tuberosa*) extensively cultivated in fields in various parts of the world where the climate and soil is suitable; and many hundreds of thousands are annually imported into this country for cultivation in pots. Its cultivation under glass is frequently supposed to be difficult, but I have never found it so, and think that any failures, or partial failures, that occur are generally the result of slight misunderstanding as to their requirements. Growing naturally in a warm or hot climate it is a common thing for these plants to be potted and placed into a high atmospheric temperature—and in some instances into a still higher bottom heat—under the impression that this proceeding is absolutely necessary for their welfare, whereas it is very inimical to them. These tubers when received in this country are in a practical dormant condition. They contain within themselves the elements for the first and early sustenance of the leaves, flower stem, and flowers, which every well-matured and perfect tuber also at the same time contains perfectly formed within itself, and which are ready to complete their full development on exposure to the proper amount of heat, light, and moisture. A large number of the tubers imported are not too well matured. When placed together in large quantities they heat, and their own moisture, in addition to that of the atmosphere surrounding them, soon sets in a process of decay. This incipient decay may be either accelerated or arrested by the treatment accorded by the cultivator. If he places them, when potted, into a hot and moist atmosphere, and keeps the soil constantly moist, all that are not absolutely perfect tubers will quickly succumb; and those that are perfect will not be so good as they would have been under rational and proper treatment. On the other hand, decay may be checked by a careful mode of treatment.

When the tubers are potted they ought to be placed in a house where the temperature is as airy and dry as a greenhouse or conservatory, but about 10° warmer. Water must only be applied to the soil when it has become quite dry, and this system must be continued until the too moist condition of the tubers has been counteracted, the tubers plumped up, and root growth commenced, when water may be applied a little sooner, but still not until the soil is dryer than would be advisable with most plants, and this rule applies throughout their period of growth and flowering. By

this procedure the vital functions of the tubers do not receive any undue check or excitement during their resting period other than is incidental to lifting and transportation, and their development proceeds slowly and safely. I think that two of the most frequent causes of failure are undue excitement by attempting to force them prematurely by means of too much heat in the early stages, and keeping the soil constantly too wet.

An excellent cultivator has recommended that the tubers be potted singly into small pots and to be again placed into larger pots. I have never found it necessary to adopt the twice potting system, but at once place them into the pots in which they are to flower. Pots 6 inches in diameter is the size used, and three or four tubers, according to their size, are placed in a pot. The tubers are planted half their depth in soil consisting of three parts loam, one part leaf mould, and one part sharp sand; and they afterwards receive the treatment previously described, with the addition that when in vigorous growth of foliage, and the flower stems appearing, they receive more heat and the foliage is frequently syringed. Last spring I obtained five hundred medium-sized tubers which were in a damp condition; they were treated as above, and there are now over three hundred spikes of flowers, and we have gathered considerably over one hundred dozen single flowers besides spikes of flowers since the beginning of June. I think the failure of tubers to grow has been under 2 per cent., and the failure to flower under 4 per cent., results that are not entirely unsatisfactory, considering that all the tubers were not expected to either grow or flower.

When placing more than one tuber in a pot it is as well to select them as nearly equal in size as possible, there will then be a greater likelihood of the tubers in one pot flowering at one time. If it is *very* desirable that they should do so then it would be better to place the tubers singly in small pots and then to mass them together when the flower stems appear.—J. UDALE.

### FRUIT-GROWING AS AN INDUSTRY.

[A paper read by E. J. BAILLIE, Esq., F.L.S., at the Cardiff Conference of the British Fruit Growers' Association, Aug. 12th, 1891.]

SOMETIMES I think the surface facts connected with the idea of British fruit growing must begin to appear wearisome, but on reflection it will at once become apparent that persistent repetition of fact is needful until practical effect is given to statistical report and to theoretical argument. In any department of social morality or national economy persistent repetition is needful to gain public attention, and to urge the public mind first into sympathy and then into active support. Now that is precisely our position in the matter of the subject we are called together to consider and discuss this afternoon. Is there a fair demand for fruits that can be grown at home? My best answer for this occasion (partly because it is a recent utterance, and partly because it is the utterance of a responsible member of the Government, whose official duties bring him into direct contact with the subject)—my best answer may be found in some remarks made by Mr. Chaplin, M.P., President of the Board of Agriculture, at a meeting held in the Mansion House, London, a few weeks ago, under the auspices of the Fruiterers' Company, when he pointed out that the future of agriculture would extend considerably in the direction of fruit culture, and from the tone of his remarks he was evidently inclined to regard these supplemental conditions hopefully, as likely to prove satisfactory and successful. He dealt with some extraordinary facts and figures concerning dairy products, and the prices we pay for importations of these. In his opinion £1,200,000 of the money paid for imported fruits might have been saved by the replacement by home-grown produce of the hardy fruits represented by that amount. This sum represented but a portion of what had been handed over to the foreign grower for what he had sent us to help to supply the demand. It was gratifying to Mr. Chaplin to find that considerable movement in a right direction had already been made, as last year over 2400 acres had been added to our orchards. *The Manchester City News*, a reliable authority, stated in its issue of the 18th July last that in June of the present year no fewer than 64,034 bushels of Apples were imported into the United Kingdom, of the value of £37,854—last year only 8798 bushels, valued at £6237, were imported. The increase was largely due to Tasmania. It is my intention, if time permits, to come back to this matter again, but the facts are so readily admitted and the correctness of these so readily obtained that this brief reference may suffice in the meantime. As long as we pay, I will not say millions, but even thousands of British money for the importation of fruits that are essentially, for us, British fruits, the desirability for extension need not be questioned.

Fruit and fruit growing we find very much in the air just now,



and there are various reasons for this. There is the fact of increased population, of better facilities for intercommunication, the emigration of our sons and daughters across the seas, taking with them the home knowledge, and with sinews and muscle bringing the forest and prairie lands of the West into cultivation and productiveness, and sending the result of their labours into our home markets as an incentive to the freer use of fruits as food. Then there is the congested state of the towns, forcing some at least of the workers to the fringe of the city to seek a garden patch, and all that this means under conditions of this nature. Another feature is the evident return in many directions to the simpler methods of life, and a recognition on the part of science that if the dietetic practices of the past have not been decidedly wrong they have at least been far from right. Then we have had, and have still, the great advantage of the assistance of philanthropic and economic societies and associations. In fact we find political, moral, social, and sentimental currents are all set in this direction. And we are perfectly safe, inasmuch as we yet take our millions out of the purses of the public and put them into the money bags of the foreigner.

The idea of fruit growing opens out in many directions, any one of which might be profitably followed, but the subject of my paper is "Fruit Growing as an Industry." It is working for a living, not riding a hobby or playing with a fad. It is one thing to grow fruit for household consumption where the garden expenses are merged with the other details of domestic outlay, or for presents to friends; but when you regard the question as an industry it then assumes the more practical aspect suggested by a title one often sees nowadays, "Fruit Growing for Profit." I claim for the industry that it cannot fail to give a satisfactory solution to the enigma couched in the prosaic phrase, "Will it pay?" I claim for it further that it ought to be one of the most important features in our national economy, for it faces and grapples with some of the most pressing problems of the times—the land question and the labour question. Nay, more, it affects materially the health and happiness of the people, and the true wealth of the nation.

But if I may again draw your attention to the precise title of my paper I would venture to emphasise the word "industry." My point is that it is not an employment or occupation that can run itself, or that can be run under the so-called superintendence of a lazy fellow, or of one who lacks method or lacks knowledge of a particular order. In these days there is a great deal of seeking for things that require but little attention, and that little not of a constant character. Spasms of speculation as against sustained occupation. A nibble at some commission in the morning, a juggle with a share list at noon, a manipulation of some mining venture or a transfer of some stocks, in the whole of which there has been nothing produced—may characterise rather than caricature phases of what has come to be called (for show of respectability) modern commerce. Call it or mis-call it what you like, that will not do for an industry. There must be work. That is a splendid feature of commendation—that is, permit me to enforce, one of its most hopeful aspects, it provides a healthy field for happy employment. There must be patient perseverance, untiring application, a timely seizure of offered opportunities, a thrifty regard for occasions upon which available resources should be called into united co-operative activity.

It will, perhaps, assist to make my meaning clear if I assume for the moment that I am myself to make a start in this industry. Let me, then, survey myself. I must, in horticultural parlance, be somewhat of a hybrid; I must, so to speak, contain within myself three or four elements not usually found or required in a single personality. We will come to this presently. Mr. Gladstone and other leaders, in taking up this question at the outset, spoke of fruit farming and the fruit farmer, and ever since there has been a hazy kind of notion that the movement was in the hands of the present-day agriculturist as we find him. The adoption of the title to which I have referred seems to have given colour to this erroneous notion. Fruit farming seemed to imply that the farmer is to leave his cereals and his root crops and to give his care to fruits. That is not so. The farmer, as he is familiar to most of us, can have but little part in this business as an industry. The matter comes much nearer to horticulture than to agriculture. The spade (or should I say the fork?) and the pruning knife are the emblems of the cult rather than the plough and the slashing hook. This brings me to the qualifications at which I hinted a little while ago. The fruit cultivator for our industry must have something of the farmer, but a good bit of the gardener, and the good gardener. He must have business tact, commercial enterprise, the spirit of the student, the suavity of the salesman, the sense of the Nature-lover with the instinct and method of the naturalist—the art-faculty, so to speak, which gives a sense and an appreciation of neatness with the power of its accomplishment, which suggests what is attractive and proper, and supplies the graceful, natural adornment

which is no insignificant element of success in market methods. Where is such a man? He does not exist in large numbers. I could put hands on a dozen or a score, but they are not abundant. Yet it seems to me we must have such possessing these features educationally, and each of a temperament enthusiastic and optimistic; an eye that sees the bit of blue sky above the grey cloud—"a stout heart for a stiff brae," as they say beyond the border.

The educational process by which such knowledge is best to be gained, such a character to be moulded, and such qualifications most likely to be obtained must claim attention. With that I do not propose just now to deal, but the Technical Education Act which has now appeared above the legislative horizon seems to have about it some aspects of helpfulness, and county councillors in their respective localities seem inclined to aid already existing methods and institutions in a right direction. At any rate I am glad to find it is likely to be so in our own county, and in other counties from which I have had particulars.

Having thus hastily sketched the character that should represent the central figure in our industry the next necessity is land. Land and locality might be considered together. As fruit can be grown in any county in England or Wales we need not now discuss locality from a geographical point of view. The limits of my paper, too, forbid that I should enter upon details as to the character of the land itself, but it is clear it should be of good quality. Consideration should be carefully bestowed on soil, shelter, and situation. In this matter it should be borne in mind that in the case of purchase mere cheapness may prove but a false economy. You must of course go beneath the surface. Nature quickly clothes even the waste with weeds, so that a green surface may conceal a subsoil of clinkers and brickbats. A patch of this character is not suitable. It costs as much to plant a sterile wilderness as a fertile valley—perhaps more—maintenance and other expenses are more in proportion, and there is no margin for waste effort or delayed result and final disappointment as a possibility. The best is the best, and within ordinary limits of fair dealing in fixing the purchase money the best is the cheapest.

After the land the trees must be considered, and the scheme of planting generally. What shall I plant and in what variety? That is a question that must be largely regulated by the market requirements and surroundings as to climate and other matters which are applicable to each case respectively. In a paper of this character—a suggestive sketch merely and covering as much of the ground as time and circumstances will allow—it is not expected that I should name absolute kinds, though this I shall at any time be happy to do either by correspondence or otherwise. Speaking generally, I would say decidedly plant only the best trees, and I am always of opinion that it is not the best plan for the grower to select maiden trees because the first cost is lighter to some trifling extent, but he secures his purpose and serves his interest better by procuring trees of more matured growth, and such as have, therefore, had the advantage of nursery cultivation over that important period of tree life, when, shall I say, the future character of the tree is in process of formation, for trees, like human beings, have the abiding elements of their after character fixed in their earlier years. The nursery is, or ought to be, the best place for the due development of the earlier period of tree growth when the future possibilities as to productive power are largely in the hands of the cultivator. It always seems to me that it is better then to trust the knowledge of the specialist than the idea of the amateur. I should mention, however, that in an ideal orchard old trees will find no place. When a tree is past productiveness it is also past the power of bringing forth even its meagre crop of anything like good quality. Young trees of few sorts of good kinds then is what we should aim at.

In the matter of the choice of kinds it seems necessary to utter a word of warning against the practice generally followed of choosing a great number of different varieties for the mere sake of multiplying sorts. It is much better to select such few good sorts as will meet the possible demands you are called upon to satisfy. Avoid, then, needless multiplication of kinds. The imported fruits, as received both from America and Tasmania as well as from other Edens over the sea, teach us this lesson emphatically. Having named half a dozen kinds you have nearly exhausted the types of the splendid American fruits which reach us, and though I would not wish to suggest a strict limit or to define it I would certainly say it would be better in making out a list to be nearer six than sixty, that is of a given kind of any particular fruit, for I am not now suggesting that a fruit grower should grow nothing else but Apples. I would strongly urge that he should go in for general cultivation of Apples, Pears, stone fruits, berries, and some of the choicer vegetables, including Mushrooms and Tomatoes, for all of which there is a constant and increasingly heavy demand.

It is desirable to have plans so arranged that no particular



season is so overcrowded with pressing work as to necessitate neglect of some other department calling for labour and immediate supervision. In cases of this kind it is usual that after this over-pressure there may come a period of prolonged feeble activity until the return of the time when a renewed outburst is needed to put matters upon a clear basis again. This may be said in another way by exhorting the fruit grower, in the language of the familiar proverb, "not to carry all his eggs in one basket." He should be able to spread his resources with tolerable evenness over the longer period of the working days of the year, or in the busy time the preparation for the market and the attendance there will constitute such a crowded day as will render attention to home duties—to the necessary demands of special growing crops—an irksome toil, an attempted futility, and must mean loss of money and repose of mind, of pleasure, of peace, and of profit—pleasure, which every man's calling ought to give him, or he is better out of it; of peace, which every man's life must have in some measure, and might have in fulness and of profit, without which we are unable to provide for the stern necessities of an existence demanding at least food, clothes, and shelter. With everything properly balanced, and with due regard to daily duty, there should follow that best of all rewards on the earthly plane—health and contentment. It is not every industry that can offer such advantages.

It will be remembered that the grand Carlylean maxim was, "Produce! produce! produce!" This is a splendid utterance of the wonderful old rugged prophet and sage philosopher, whose writings are rightly counted amongst the most precious treasures of our literature and philosophy. Carlyle's maxim is timely. Its counsel is greatly needed in our present age. It is a healthy tonic for the present day lassitude—a stimulus for the weary languor which seems to be creeping into the labour ethics of the end of the century. My brief remarks find focus in the same idea. The fruit growing idea is "Produce! produce! produce!" We are aiming at production. And this opens out the next phase of the subject to which I must briefly allude. Production includes at least two phases—quantity and quality. Whilst we aim for both we must insist upon quality. Let me write this out in capitals—insist upon quality. There is little room now for, and less profit upon, anything in the way of fruit that is not up to the mark as to quality. Soon there will be no ready market for anything but that which can be branded "A1," and I believe the day will never come when good fruit, well grown and carefully packed, will not find an eager market demand and a ready sale at profitable prices, but we have to make steady and great advancement in this respect. I hope the day may come when fruits can be offered and bought by sample, when the fruit grower need not stand idle in the market place behind his hampers waiting the whim of the purchaser, who in his turn is likely waiting for the decline of the day and the corresponding decline of prices, a process which often goes on to save the necessity of carting home the unsold produce. Why not sell fruit by sample as grain and other produce of the earth can be sold? Why can I not buy British fruits of a certain brand and a certain quality? This must come together with improved market methods, central agencies, increased railway facilities, and other blessings for which we are waiting, and which a future organisation connected closely with this industry must take in hand with determination.

There are other questions, such as fruit preservation, upon which I should have liked to have touched, but in a subject so wide we must leave certain tracts of interesting territory marked like the maps of the world, "unexplored." Fruit as food might be favourably and profitably discussed—in a double sense, if you like—but this must wait another opportunity. There are other points, too, connected with the industry from a Government point of view—as, for instance, the fact, that whilst the fishery industry receives State aid, no such helpfulness is rendered to this, I venture to urge, more important industry of fruit growing. Another interesting and peculiar fact is, that whilst in some countries there is Government supervision of orchards, and an insect-infested fruit grove has to be reported to Government officials, so that the plague may be stamped out before its harmful influence is extended, our own Government at home limits such precautionary measures to swine fever and foot-and-mouth disease.

But upon these and other points such associations as the British Fruit Growers' Association, under the auspices of which I am permitted to-day to address you, are always ready to seize, and from this Association and other similar societies whose record of past work, though necessarily brief, as the history of the movement is brief, is yet a noble testimony to good service actively rendered with most satisfactory results—from this Association and other organisations I look, with a full hope, for the better day which I am persuaded is about to dawn. There are pessimistic growers who see puzzles and problems everywhere, men who have neither peace nor

patience, who never get to the tops of the mountains, but mope and maunder in the mist at the foot of the hills, and say solemnly and drearily that the sun is always obscured by the rain cloud, and the breath of the wind is full of a blight curse. The Book of Job is believed to be one of the oldest books in earth's library, and you find Job's comforters were children of yesterday. They are with us to-day, and they are likely to be here to-morrow. We can pity them, but we can also afford largely to ignore them. To the right minded and the right hearted this industry—this movement is a splendid fact in the world's welfare. We do not consider the matter entirely from a pounds, shillings, and pence point of view. In speaking of an industry it is necessary to keep this in view, but there is another side to the question, a most important one. The future happiness of the nation, and of other nations, for the subject is too large even for a nation—it is international in its best, its highest aspects—the future happiness and welfare can be, must be, largely influenced by an extended practice of fruit growing, involving of course an implied effect of this system, a largely increased use of fruits as the food of the people. There are weary eyes aching over the needle night after night, to these there is little to look at of this beautiful world—only the dull dim street; there are heavy hearts which hear no semblance to music, save the dinner bell at the factory; there are languishing spirits in close crowded courts fainting for the breath of the breeze. Toilers these in the towns whose lives are almost without hope. Open the gates of Arcadia! Lead the children out into a peopled paradise! How grandly then would everything go in the way which those who had eyes to see know must be right? Coming face to face with the fair freshness of Nature, how we can strike off the chains that bind humanity down to the dull routine of a mechanical existence of a sunless life, when smoke and chimneys take the place of sunlight and trees, and the hissing of steam and the fumes of chemicals torment and stifle those who might find freedom and fulness of life in work of the orchard and the garden or rest in the shelter of the grove.—EDMUND J. BAILLIE.

## SUBURBAN FLOWER GARDENS.

To those whose business lives are passed within the confines of a great city, but who love to taste the sweetness of blossom-scented air in their leisure hours, suburban gardens are a source of endless interest and pleasure. The Hawthorn in its snowy springtide mantle, and the Roses that we often see clothing trellises and gables, have a charm for them that few country dwellers can appreciate. In many suburban byways near busy main thoroughfares delightful pictures of flower and tree beauty may be found, and if one wanders somewhat farther afield, where the houses are more scattered, the gardens larger, and interspersed, perhaps, with stretches of meadow land, such scenes are still more numerous. Not a tithe, of course, of the inhabitants of great towns trouble to search for them; but those who can shake off languor and lassitude and escape into the sweeter atmosphere and brighter surroundings of the city's outskirts will find much that is inspiring and health-giving.

Suburban flower gardens are many sided. So far as London alone is concerned they are to be found in all sorts and conditions within the sound of Big Ben. My own ramblings have been chiefly confined to the Surrey side of the Thames, but "within that limit is relief enough." It has not the lion's share of the great parks, nor, perhaps, of imposing private gardens, but it has a wealth of natural effect and unpretentious garden beauty, which it would be almost a platitude to say is immeasurably more gardenesque. I have never quarrelled with those who tell me that this county or that is the most beautiful in the land (and one knows in particular the Devonian's pride), but if events have favoured I have led them down leafy lanes where there is a glory of wayside gardens, and asked if they can show me where Nature and man have combined to paint a scene more fair, but the answer has never come. If it were not for the infinite variety to be met with suburban wanderings would begin to pall, but the picture is ever changing. True garden beauty must ever be that in which the effects, like Nature's own, are diversified and fleeting. As flower gives place to flower by the woodland and the wayside, so in the perfect garden there must be new features as the cycle of the seasons pursues its unresting course. It is too much to look for this in one small enclosure, especially where business cares are so pressing as to afford scanty leisure, but as many pass under the eye one by one it is found that different ideas and methods have unconsciously combined to provide a complete and delightful whole. One garden is at its best in the spring time, and before Daffodils, Primroses, Scillas, and other blossoms of the opening year have faded the hitherto bare ground of its neighbour teems with life.



In another the eye may find relief from the flowerless aspect of beds and borders in the blossom-laden limbs that Apple and Almond stretch above them, while where fruit trees are absent flower-clothed Weigelas, Berberises, Ribes, Viburnums, and other shrubs replace and succeed them. Then as the spring wanes Irises commence to open, and one sees stately masses of them here and there, while treading on their heels are the Pinks and early flowering perennials, that carry us on until glorious masses of Roses precede the full flush of summer beauty, and warn us to extract the fullest enjoyment from the garden before the Dahlias and Michaelmas Daisies close the display.

Apart, too, from the charm which this successional aspect of suburban gardens gives to them, it is interesting, and not without instruction, to note with what varied materials they are adorned at the same season. Every system of flower gardening that has any following at all, and some, one would think, that are the evolution of local circumstances alone and may be looked for vainly elsewhere, is represented. Evening rambles in July have recently revived old impressions of suburban gardening at the approach of midsummer. In one were found the familiar features of "bedding out;" in another the now almost equally familiar mixed borders; in a third the grace and irregularity of the wild garden; and in a fourth the one-plant idea carried out modestly with Pinks, brightly with Carnations or Pelargoniums, or gorgeously with Roses. But there are other gardens still which arrest the steps of the passer-by, gardens wherein bold flowers are used lavishly but with judgment, and these perhaps are the most beautiful of all. There is one but a mile or two from a great thoroughfare which one never finds without brightness and fragrance from April to October, and is with me the goal of a weekly—sometimes daily—pilgrimage. In spring there are often evil odours from the market gardens near at hand, when forlorn stumps of Cabbages and Brussels Sprouts, robbers of the land and a danger to the public health, are saturated with a moisture-laden atmosphere, but the rich fragrance of the groups of Wallflowers cause them to be forgotten. And as one sense is gratified by these rich brown masses, so is another by the Hyacinths and Tulips in their brilliant raiment, softened by Forget-me-nots, Silenes, and Violas. In June there are broad patches, and even one or two full beds, of Pinks and Stocks, vying with each other in beauty and sweetness. There are, too, stately lines of Delphiniums, dwarfer, by reason of the soil perhaps, than they are usually seen, but with huge spikes of azure and indigo and cobalt. These are not confined to one group or line, but are planted almost everywhere, even amongst the Roses, and it is a lesson to note how beautifully they harmonise with the pink and white clusters of La France and Merveille de Lyon. This is a cottage garden of barely half an acre, and vegetables are grown in it as well as flowers. The western wall of the dwelling is covered by a huge Gloire de Dijon, and it is rarely passed without the owner being found busy cutting and selling flowers to cyclists and pedestrians.

As the materials employed in the decoration of suburban flower gardens vary, so do the skill and taste that are displayed in utilising them. There is one that might be missed entirely, the garden being almost hidden, but that the corner of a trellis erection some 7 feet high and almost smothered in Roses is caught sight of, and a closer inspection of it reveals other beauties within. Again, one may find the customary "Geranium" border skirting the short semi-circular drive of a villa, and find nothing fresh there; but in the centre of the little lawn before the door there is a rustic basket, from which hang the flower-furnished sprays of Ivy-leaved Pelargoniums and Petunias in graceful profusion. In another case one finds a meagre strip of garden ground containing nothing noteworthy, and the front is a mere forecourt; but the wall supports a magnificent Honeysuckle, and within a stone's throw is another, which is covered with a dense mass of *Ceanothus rigidus*. In suburban, as in other, gardens are to be found the formal and the informal, the simple and the ornate. In some a satisfying effect has been secured, but bearing the traces of such thought and trouble; in others a happy inspiration speaks for itself.

Of the scores, I might indeed say hundreds, of suburban gardens which I have admired of late, one remarkable example of original treatment is worth referring to specially. A valued friend whetted an appetite that had already been bountifully ministered to by suggesting a visit to "the most beautiful garden in London." The least curious would be aroused by such a description, which carries more weight, let me say, than many would give to it who have only seen desolate backyards—a disgrace to the name of gardens—from the windows of local trains. In such a connection comparisons are "odorous" indeed, and yet it is hard to imagine a garden more beautiful than that at Adon Mount, the residence of a well-known proprietor of newspapers in London. But that my theme is gardens, not men, I should be tempted to dwell on the

wonderful enterprise, business sagacity, and success of Mr. James Henderson, who began business life more liberally endowed with common sense and courage than worldly goods, but is to-day the owner of almost as many newspapers as can be counted on the fingers of both hands; still what he has done with flowers may interest gardening readers more. To attempt any stereotyped description of his garden would be absolutely useless, for there is not a shred of conventionality about it. All is freshness and originality. The house stands on an eminence overlooking Dulwich Park, and the garden slopes down on every side. It is one of broken lines and curves, of banks and slopes, of irregular borders and rock beds, of arches and trellises, of winding walks and shady nooks. It is a garden that one cannot survey at a glance, but must wander and ramble in to find out the treasures that are there. There is a coign of vantage from which one can admire the beauty of the surrounding country, but none from which every lovely nook and corner of the garden can be seen. Its boundaries are marked by trellises festooned with Roses, and long borders in which Roses were recently flowering in wonderful profusion and beauty, embrace a wealth of the choicest and most useful of hardy flowers. These are all on grass, not on gravel. Foxgloves from seed mixed with soil, and thrown here and there at the backs of the borders, rear their tall spikes in colonies, while Delphiniums and Hollyhocks complete a stately trio. Carnations, Picotees and Pinks, Irises in great variety, Columbines, Campanulas, Lilliums, Gladioli, and numbers of other valuable flowers are strikingly effective in masses. Above all, too, there are Poppies—Poppies in such numbers and diversity as one rarely sees. One broad mass clothes what was formerly a bare unsightly bank in a shimmering mass of colour, and there are some large beds full of them in every imaginable shade of colour. There are Poppies of all kinds, Poppies annual and Poppies perennial, Poppies of the French school, Poppies of the English (clerical these) and quaint Japanese. There are individual varieties of great beauty, some recognised forms, such as the Mikado, other seedlings rejoicing in no cognomen, but whatever they may be individually the collective display of these brilliant flowers at Adon Mount is one of the floral sights of London.

This is not merely a summer garden. In the spring time Hyacinths, Tulips, Scillas, Daffodils, Primroses, Lilies of the Valley, and other flowers rear their heads in thousands in beds and borders, on banks and slopes, in nooks and corners; and there is abundance of material for carrying on the display after the summer flowers have waned. Everywhere there is the same diversity and graceful effect. To use Miss Jekyll's significant words, "Things seem to have happened and not been done." The flowers grow as nearly under natural surroundings as flowers can. No hoe is allowed amongst them, and weeds have so little chance of making headway that the hand suffices to keep them down. There was a time when Mr. Henderson's beautiful garden drew visitors from far and near. He threw it open to them to teach a love for flowers and new views of flower gardening. On one occasion it was crowded with 6000 of them—a truly remarkable fact in a London suburban garden—but the privilege was abused and had to be withdrawn. The orderly and careful have to suffer for the misdeeds of the disorderly and careless—a regrettable fact, for the garden is essentially one that must be seen to be understood. It is noteworthy that the transformation from bare land to one of the most beautiful flower homes that can be conceived has been brought about entirely by the owner himself. Everything has been carried out by unskilled labour under his personal direction. He nursed ideas of flower gardening thirty years ago that are even now ahead of the times, and has carried them into effect with a success that is nothing short of remarkable, when it is remembered that it has been accomplished with such little time and attention as have been spared by a vast business undertaking.

The flower garden at Adon Mount is a triumph of artistic work, and teaches valuable lessons to any thoughtful observer. It has what many others lack, a striking individuality, and it is, of course, out of the common rank of the suburban gardens to which reference has been made in these notes, but these, as I have said, form a great field for collective study. I would that countless persons penned within the city walls could be induced to stretch sluggish limbs and go forth to seek their pleasures. When once the trees and flowers become familiar friends they teach many a lesson of happiness and contentment. Great journals may open their columns to give vent to the bitter cry of dullness and weariness of spirit as one of them is doing now, but I urge with the love and sympathy of one who has covered many hundreds of miles in suburban byways, that the remedy is there, and not in cramming the already suffocating city with new temples of amusement. Nature offers antidotes to the ills that attend coercing her with a forgiving and generous hand, and those who seek her in her own domains, leaving the depression of the gloomy town behind,



will find that of which Von Fallersleben, as admirers of German poetic literature will remember, has so sweetly sung, "Spring within the heart."—W. P. WRIGHT.

### THE PREPARATION OF SOIL FOR FRUIT CULTURE.

THE nature and condition of the soil is of the greatest possible importance in relation to fruit culture, as the soil is the principal medium through which the building up of the tree and the formation of fruit takes place. The soil serves not only as a basis upon which the tree fixes itself and maintains its position, but it is the medium through which it draws its food supply, as well as that wherein many of the chemical changes take place in the preparation of the various elements of plant food.

Before determining what preparation may be required it will be needful to ascertain the present condition of the soil. To do this it must be noted in the first place what is the natural condition or strength of the land; that is, what are its component parts; how much does it contain of the elements of the food required; or what ingredients may be deficient. A chemical analysis is the only means of ascertaining this accurately; but where only small quantities of trees are to be planted by a cottager, allotment holder, or small farmer, this might entail too great an expense, but a fairly accurate estimate of the quality of various soils may be formed by any practical man, and the elements that are likely to be deficient may be artificially supplied.

But the object of this paper is not to deal with the composition of soils so much as to give a few practical hints as to the cultivation required to render the land fit for planting. The present state of the land to be planted must first be considered; as to whether it is freshly broken up pasture, whether ordinary arable land, or whether it may have received any better treatment than that given in ordinary husbandry. The first consideration should be that of drainage. Nothing can be worse for fruit trees than to be planted in land the subsoil of which is close and water-logged. There are, of course, many soils that do not require draining. A test as to its nature in this respect may be made in the following way. If, on digging to the subsoil, you find it porous and perforated by worms, you may conclude that there is sufficient circulation of water and air through it. If, on the contrary, you find the soil close and retentive, with no worm holes, you may conclude that it ought to be drained; and let me here emphasise the importance of proper draining. If the land be water-logged, it is impossible for the trees to thrive and maintain a healthy condition upon it, or for it to perform its proper functions in preparing plant food. The fruit trees will consequently become moss-covered and subject to canker and many other diseases, and instead of producing good profitable crops, will become so stunted and unhealthy, that what fruit may be produced it will be comparatively worthless.

The next consideration is the breaking up of the land. If it has been used for ordinary husbandry it should, in the first place, be broken up to a greater depth than has hitherto been the case. Where there is no great extent to be planted this would probably have to be performed by hand. This should be done by what is ordinarily known as bastard trenching, or the breaking up of the land two spits deep; but in doing this, on no account must the subsoil be brought to the surface, but merely broken up and turned over, turning the next spit of surface soil on to the top of the subsoil thus broken up.

Where large breadths are to be prepared a steam cultivator may be used to advantage, or it may also be prepared with the subsoil plough. These implements should be used in dry weather only, and if possible used in two opposite directions to ensure the whole of the subsoil being moved. If the land can be thus prepared a few months before planting so much the better, as the constant moving of the land in dry weather, and fully exposing it to the action of the sun and air is highly beneficial, and it enables the soil to absorb from the atmosphere many fertilising elements. In the case of planting standard trees upon grass land in the old style of farm orchards it will be needful to dig holes for each of the trees. In these single holes, however, there is always a great danger of water lodging and becoming stagnant, which will be greatly to the detriment of the tree. Where, therefore, it becomes necessary to dig these single holes always be careful to provide some proper means of drainage from each hole, or disappointment will probably ensue to the planter.

As to the condition of the land best suited to planting probably that from which a root crop has been taken will be found one of the best. The land will then of necessity have been well worked in preparation for the roots, and well manured, much of the strength of which will still remain in the soil in the best condition for the newly forming roots to feed upon. If planting is to

succeed a corn crop the land will be in a more exhausted condition, and will require more manure applying at the time of planting. It is most desirable to select land that is clean and free from weeds. Otherwise if the trees are planted where the land is at all encumbered with them, and they should become buried amongst the roots of the trees great annoyance and expense will ensue for many years, and some of the more tenacious weeds cannot be afterwards extracted without injury to the roots of the tree.

If the land to be planted is naturally good and has been well cultivated for any considerable time it will not require much cultivation before planting, but if the land is not naturally so good and is in a poor condition it will be better to defer planting for a time in order to thoroughly clean and give good preparation. In some cases it will pay well to take a clear summer fallow and to break up the land, and thoroughly clean and pulverise it through the summer, applying a good coat of manure in the autumn before planting. This will really be no loss of time but a saving in the end, and the endeavour in planting should always be to put the tree into the soil under such conditions that it will have a fair opportunity of growing and thriving after it is planted.—JOSEPH CHEAL.

[Read at the Beddington Park Conference of the British Fruit Growers' Association, August 3rd, 1891.]

### PINKS AT HANDSWORTH, BIRMINGHAM.

I SAW Mr. A. R. Brown's Pinks in the middle of June, and the plants had suffered so much from the severe winter that I was somewhat surprised at his success at the Midland section of the National Pink Society at Wolverhampton and at Manchester as the leading prize-winner. The day after the Wolverhampton Show I again saw his plants, and was much gratified with his blooms, and I found him at work polishing up his best blooms from Wolverhampton; and they needed it, for the three days' exposure there had given the flowers a coating of dust, and yet they stood so well, and some of them were in his winning stands at Manchester on the Saturday in the same week.

Mr. Brown's garden in the Crompton Road, Handsworth, where his father first started a florist's business many years ago, was then and for some years after a suburban district, but now it is surrounded by bricks and mortar, and the district is densely populated. The late Mr. Brown, father of the present proprietor, was a well known, much respected florist, and everybody in the Midlands knew Sam Brown, a genial, true florist, and a good grower of Tulips, Carnations, Picotees, Auriculas, Pinks, and other flowers. The hybridisation of sub-shrubby Calceolarias also engaged his attention. The Pink was one of his special favourites, and it is fully ten or more years since he raised a number of seedlings, of which Amy, Mr. Dark, Mrs. Brown, Mary Ann, Clipper, a flower which Mr. Samuel Barlow esteems highly, and was originally called Heavy Red, and is still an excellent variety. Mr. C. F. Thurstans of Wolverhampton also grows this variety, and considers it one of the best. There is another which I think is destined to make its mark by-and-by, a variety named Maud, which last year only existed in one weakly plant, and it was nursed through the winter, and now has a few strong pieces of "grass" for future stock.

The only one yet sent out is Mrs. Dark, and it seems hard to understand why Amy, Ethel, and Maud have not been distributed long since. Sam Brown, as he was familiarly called, was somewhat conservative in his floral leanings, and would only part with his pets to a very particular friend, and this but seldom, and no great effort was made to increase the stock to any extent. Last winter terribly crippled Mr. Brown's stock as well as that of others, and both Amy and Ethel cannot be sent out until the autumn of 1892. Mrs. Brown and Mary Ann, two fine varieties, are altogether lost. Amy is making its mark as a fine flower of good size, a good petal, and refined in its marking and quality. Fellows' Rector, so admirably shown by Mr. R. Sydenham at Wolverhampton, is another fine flower, which will be welcomed by all growers. Brown's Ethel, light red laced, has a fine petal, regularly laced, and a good pod, and is an A1 flower. Mr. Dark, light red laced, is a good flower, always lacing well, and a good pod. Ethel is a seedling from it and finer. Cronk's Mrs. J. Cronk, sent out by Mr. J. G. Paul, Bridge of Weir, bright reddish purple laced, has a pure white ground and fine petal, which is regularly laced. Paul's Chastity, bright red laced, is fine in petal and lacing but small. Paul's Bertha has a very small lacing, almost a wire edging of dark purple, which runs clean on the margin of a very pure white ground, and is a most promising flower. After making these notes this flower, shown by Mr. Brown, was certificated at Manchester, was regarded as a coming flower, and took the first prize in the class for purple laced Pinks.

Hooper's Ranger Johnson, heavy red lacing, is large and full, the lacing rather irregular, with a roughness about the flower; but seeing this flower later, quite at the end of July, it came better, and is well worth growing. Hooper's Richard Dean, heavy red lacing, bears some resemblance to Ranger Johnson, and Mr. Hooper considers it to be one of his finest. It is not so at Handsworth; it is small in petal, somewhat irregular in the lacing, and is too full of small petals. Hooper's Mrs. Fred Hooper, bright rosy purple lacing, is a promising flower, with a good petal, a well-built fine flower. Fellowes' Eurydice is fine in colour, but with a confused centre, and Mr. Brown intends discarding it. Fellowes'



Hebe has a heavy dark red lacing, which is irregular and rather rough, but is a useful back row flower. Fellowes' Zoe, bright heavy red lacing, has fine guard petals, and is also good in lacing, but the centre petals were irregularly marked early, but came better later, and may evidently be caught occasionally. Jones' John Love, light purple lacing, is a promising flower, with good petal and form. Paul's George White, light purple lacing, a well-known flower, with good petal, is still amongst the best; and Dr. Maclean is also a good old variety. Bertram, heavy red lacing, is a telling corner flower; and Fellowes' Minerva, dark red lacing, is better than Bertram, finer in every way. Hooper's Emerald, very heavy red laced, is very large and full, but small in petal. Hooper's Henry Hooper, dark purple lacing, which is rather feathery, is both good and useful. Turner's Godfrey, deep bright red lacing, which is regular, has a good petal, and is a good old variety. Turner's Galopin, heavy purple laced, is beautiful in form and lacing, and has a good petal. Boiard, red laced, is still one of our best Pinks, although having a narrow petal, and it tells well in a stand. Of Modesty too much cannot be said in its favour. It is in every way a grand flower, and was very much to the front at Wolverhampton and elsewhere. It has a light rosy purple lacing, with broad fine regularly laced petal, and requires scarcely any dressing. Empress of India has a grand petal and brilliant colour, and if it possessed another tier of petals would be almost unsurpassable. It took the premiers as a red laced both at Wolverhampton and Manchester. Paul's William Paul, clear red lacing, is very large and full, with good petal and form, and is one of the best in cultivation. Maclean's Ernest, heavy red lacing, large and fine. Fellowes' Lustre, large, but with small centre petals, of the colour of William Paul, but inferior to it. Turner's Blondin is one of the older sorts, dark red laced, and still a fine flower. Hooper's Reliance large, and a good old variety. Fellowes' Rosy Morn, bright red lacing, full and fine. Maclean's Devise, another old variety, bright purple laced, and still one of the best grown. Turner's Dr. Masters, very heavily laced with rich dark red, and broad petal, which is smooth on the edge, is a very large and full flower. Hooper's Fred Hooper, pale rose lacing, large, smooth, and extra fine. Cronk's Noble Grand, very dark lacing, and a promising flower. Paul's Ada Louise, dark purple lacing, large and full, a fine back row flower.

These notes must be taken as referring to the blooms in Mr. Brown's collection at Handsworth. Other growers' experience may be different, but these remarks were written after careful examinations. With regard to the propagation of the Pink Mr. Brown adopts layering instead of piping, and finds they make strong plants very much earlier; and Mr. C. H. Herbert adopts the same plan, and I do not know any others who do, except Mr. Coeker of Aberdeen, and I think he does, as I know that layered plants are sent out by him.

A question arises out of my notes, Where do the purples end and the reds begin? Truly they are running so closely into each other as to be getting very much "mixed," and it is only experts in Pink lore who can be looked to now to define the two classes; and can they always do so satisfactorily to others? I know of some curious decisions in the single classes when a flower at one exhibition is classed as a red laced and in another exhibition as a purple laced. We are also getting so many degrees of lacing that it is a question in my mind whether a classification, as with Pieotees, light, medium, and heavy, should not be adopted. I know that I am not alone in this opinion, and these remarks may bring out the opinion of growers on the subject.—WILLIAM DEAN.

### TUBEROUS BEGONIAS.

THAT these are grand plants in any form no one will for an instant dispute I am certain, but I fear that the hankering after size in the blooms is not conducive to the best results for the future of this plant when considered in a decorative point of view, whether it be for the adornment of the conservatory, greenhouse, or the flower beds. Raisers appear to pay much attention to mere size of flowers, whether of double or single varieties, which they have in hand. I am aware also that they do consider the habit of growth of the plants, endeavouring to render it as dwarf as possible, which may suit their point, showing to the best advantage the few blooms which the majority of the plants are furnished with. To those who love size and compactness in the double blooms it is all very well, but as decorative plants in the broad sense too few blooms are produced.

I prefer varieties which are remarkable for their floriferousness, compact habit of growth, and still maintaining the blooms of a somewhat circular form, and characterised also by solidity, devoid of "flimsiness." Plants of either double or single varieties which can be grown in a 7-inch pot for instance, with perfect foliage and fairly covered with medium-sized blooms, are far more creditable, interesting, and satisfactory to the bulk of cultivators than those carrying perhaps a dozen huge blooms. The extra free-flowered varieties are more often semi-erect in habit of growth, just the style to render a well-grown plant appreciated on the dinner table for instance, where it would show to the greatest advantage without the aid of separate stakes to support the prodigious blossoms now becoming so common at exhibitions from the leading trade growers. In private gardens seldom do we see these large flowered sorts in the same state of perfection in that respect as we do at the metropolitan shows for instance. For flower gardens the varieties with medium-sized flowers are distinctly preferable to the huge flowered sorts, and more especially is this noticeable when growing in vases on the terrace wall, where the erect large bloomed sorts appear far too stiff in growth ever to "shine" highly as a decorative subject. For filling small vases for the house

capital plants can be had in 4-inch pots of the free-flowered section, which are just the things for this aim.

The appearance of Tuberous Begonias in flower beds may be very much improved when of the drooping or semi-drooping character by supporting their blooms with the aid of small fork-like sticks thrust into the soil amongst the foliage upon which the blooms rest. Nothing answers better for this purpose than the remains of an old birch broom, the twigs of which through being dry are rendered stiff, although of small size; therefore they will support the blossoms easily and effectually, rendering the inspection to be carried out considerably easier than when the flowers are, or nearly, touching the ground: and besides, the blooms are prevented being splashed with the soil from the beds.—E. M.

### LILIUM CONCOLOR.

A GRACEFUL plant is *Lilium concolor* when flowering as it has been in the last week or two in gardens and nurseries where Lilies



FIG. 20.—LILIUM CONCOLOR.

are prized. The flowers are of moderate size, the petals narrow and recurving, but the colour is a peculiarly bright orange red, and the whole appearance is light and elegant. Variations from seed are not uncommon, and they differ chiefly in the depth of the colouring on the prominence of the spots. One variety, shown by Mr. T. S. Ware of Tottenham at a recent meeting of the Royal Horticultural Society was noticeable for its soft tint, all clearly defined spots, and from this a sketch was prepared, which is reproduced in the accompanying woodcut (fig. 20).

In some old works this Lily is referred to as a greenhouse plant, and in the early part of the present century it was so grown. Long



since, however, it was proved to be hardy, and is now the occupant of many borders. It succeeds wherever the soil is not excessively heavy, cold, or waterlogged, but is also adapted for culture in pots.

### COMPTON VERNEY.

WITHIN the radius of a few miles of Warwick many noble English mansions are situated, and it would be difficult to find within a given area of any other town in the British Isles so many stately homes which are rendered memorable in history. In addition to the associations connected with them, some of the mansions around Warwick are also notable on account of the magnitude and grandeur of their architectural features, or by the delightful views and rural scenes that surround them. Although Compton Verney cannot boast of being so rich in historical associations as many other places in the district, it yields the palm to none in the beauty of its surroundings. In whatever direction we look features of great interest meet the eye. In some parts the flowing undulating surface of a distant scene rivets the attention; in another a stately tree stands boldly out, while the glimpses of a lake beyond show that the whole is so skilfully laid out as to leave no trace of the point at which the natural finishes and the artificial begins. Compton Verney belongs to Lord Willoughby de Broke, but is now in the occupancy of E. Cassell, Esq. It is about eight miles from Warwick, and is reached by a pleasant drive along good roads, bounded by fertile fields of corn and pastures, diversified by scattered hamlets, isolated farmsteads, and well wooded hills. The entrance to the park is through massive iron gates, from which the road is lined on one side by a long belt of large Elm trees. A sharp curve in the drive brings us in sight of the mansion, which is a well built and commodious structure, designed with an object of securing well proportioned and well lighted rooms, rather than the display of architectural adornments. The front entrance with its finely sculptured colonnade is, however, imposing and beautiful.

The lawns and pleasure grounds are very extensive, and must entail much labour to keep so large an area of lawn in good condition. Near the south front of the mansion a great feature is the splendid clump of Lime trees, supposed to have been planted on the site of the old chapel. They now form a fine shady bower some 30 yards long and nearly as much broad, the leafy canopy above quite shutting out the sunlight. Not far from this spot stand two remarkable Cedars of Lebanon, which must have been amongst the first examples planted in this country. One is 25 feet in girth near the ground line, and the other 18 feet, but unfortunately from that point they break into numerous large branches, but for all that they are grand trees. Another interesting feature at Compton Verney are the fine young Wellingtonias, which thrive remarkably well there. The largest tree near the mansion is about 45 feet high, but there are many more handsome specimens, an avenue being planted near the entrance to the pleasure grounds, every tree of which is doing wonderfully well.

From every part of the grounds we catch glimpses of the beautiful lake which is so well designed and so naturally adapted to the surroundings as to give it the appearance of a broad running river wending its way among trees and groups of shrubs, diverted from its course in some places by a bold and irregular sweep in the rising ground, then curving inwards for a distance, only to turn again till the farthest extremity sweeps gracefully round by a clump of trees. From a point opposite the front of the mansion while standing on a bridge which spans the lake at a narrow part a good view is obtained of the broadest part of the lake backed up on the further side by the fine group of Limes already mentioned, and the front entrance to the mansion partly in sight, while all along the water's edge in large masses, small clumps, and irregular bands forming a continuous fringe. The golden yellow flowers of the Water Flag (*Iris pseudo-acorus*) sparkle in the sunlight as they rear their heads above their own glaucous leaves.

Following a narrow winding walk we come suddenly upon the flower garden, which is not extensive, but bright with the glow of summer bedding, the picture of neatness and good keeping, and in addition commands one of the prettiest views of the lake, the lawn, and the Cedars. Begonias are effectively used here, some of the beds containing them being edged with *Alyssum variegatum*. On one bed in the centre, which is raised in tiers, the drooping flowers of the Begonias are shown to advantage, and just at the time of my visit the yellow Saxifrage with which they were carpeted was in full flower. Other beds were filled with scarlet Pelargoniums and Mrs. Pollock, the latter looking particularly distinct. A small grotto on one side gives an air of coolness and repose, and the water in the centre proves a useful place for Nymphæas and Lilies.

The kitchen garden and glass structures are situated on a sharp incline to the north-west of the mansion, and so steep is the ground that the upper part of the garden seems to be on a level with the roof of the mansion, and, as may be imagined, entails considerable labour. Cut flowers and plants for decorative purposes are largely in demand, and consequently the plant houses are filled with a fine stock of useful material for that purpose. *Isolepis gracilis*, *Panicum variegatum*, *Eulalias*, *Curculigos*, *Acacias*, *Grevilleas*, *Palms*, *Dracænas*, and *Ferns* are all represented in numbers by healthy plants in various sized pots; and in the centre of the stove a large plant of *Strelitzia regina* was thriving well. Another good-sized house was filled with a mixed collection of Orchids, which have been obtained recently, and as the plants are standing close together at present Mr. Garner intends to devote a couple of houses to them shortly. The vineries are four in number, the

earliest house being filled principally with Black Hamburgs. The Vines were young, and this being the first year of cropping, the fruit was cut as soon as possible to give the Vines a long season of rest. The other houses are filled with Black Hamburgs, Alicantes, Muscats, Madresfield Court, and Foster's Seedling—a rather difficult mixture to manage successfully when grown together; but by extending some of the Vines and cutting out others Mr. Garner is gradually reducing the number of varieties in each house, so as to retain only those that are known to succeed together. One house it is intended to devote entirely to Alicante, and another to Black Hamburg, Madresfield Court, and Foster's Seedling—a trio which I know from experience do well together. A good type of Foster's Seedling is growing here, the berries being of large size, and the bunches well shaped and fairly large. Many of the Alicantes were very good. Though the bunches were not particularly large they had that sturdy compact appearance which exhibitors so much admire, the berries being large, and even showing evidences of good thinning, and judging from their appearance seem likely to colour well. Tomatoes, which had been bearing a good crop for some weeks, had still a fine show of fruits, the variety being Earliest of All, of which Mr. Garner speaks very highly.

Melons are largely and well grown. The remains of a good crop was represented by well netted, highly coloured fruits of Hero of Lockinge and the less attractive but highly flavoured Sutton's Imperial Green Flesh, while in other houses were healthy plants to form a succession. A row of pits also contained a large number of plants, with fine crops of fruits, nearly full grown, which were netting beautifully. Sutton's Triumph and the two varieties previously mentioned were the principal varieties here. A capital plan adopted in these pits is to train the plants to a trellis fixed about a foot from the soil, there is then little danger from damp, and the fruits resting on the trellis need no other support; and I was much pleased to find such excellent Melons here. A single hot-water pipe runs round these pits, which proves useful in cold, wet weather.

The kitchen garden in which the vineries are situated is one in which the ornamental is combined with the useful, a wide herbaceous border running the length of it in front of the houses, and planted in such a way as to secure plenty of flowers for cutting purposes throughout the spring and summer. The whole of the garden was well and closely cropped with such vegetables as are in constant demand, but some exceptionally fine rows of Peas deserve special mention, the variety being St. Duthus, which is an improvement upon Stratagem, and is even more prolific than that fine variety, the pods also being larger, and, all points considered, it would be difficult to surpass for general use.

Excellent Chrysanthemums in pots were growing near here, a portion of them being set apart for the production of large blooms, the others being grown in bush form. All were looking well. I had almost forgotten to notice the contents of the old conservatory, which is now used for growing Camellias and large Palms. The former showed by their green shining foliage that they were well cared for, and the Palms were in good condition, among them being handsome specimens of *Phoenix rupicola* and *P. reclinata*. Before concluding these notes, I must, on behalf of myself and a friend, tender our hearty thanks to Mr. Garner for his attention.—H. D.

### ROYAL HORTICULTURAL SOCIETY.

AUGUST 5TH, 1891.

THE Floral Committee met at Chiswick on the above date. Present—W. Marshall, Esq., in the chair; Messrs. Dean, May, Paul, Furze, Herbst, Leach, Jefferies, Gordon, Watson, Fraser, Goldring, Noble, Baines, and Phippen. The Committee examined the collections of Carnations, Violas, Pansies, Fuchsias, &c., growing in the gardens, when the following awards were made:—

#### Three Marks.

CARNATIONS.—White Queen (Fisher, Son, & Sibray) white self.  
Snowdrift (Fisher, Son, & Sibray) white self.  
Edith (Fisher, Son, & Sibray) pale pink, spotted scarlet.  
Penelope (Hooper) white self.  
Dante (Hooper) rose flaked.  
Maggie Laurie (Dicksons & Co) delicate blush self.  
Guiding Star (Ware) scarlet self.  
Rowena (Dean) bright scarlet.  
The Moor (Dean) dark crimson.  
Mrs. Reynolds Holc (Veitch) terra cotta.  
Alice Ayres (Veitch) white, rose edge.  
Achilles (Novelty Seed Company) deep red streaked.  
Hoffgartner Schaffner (Benary) scarlet striped.  
Albrecht Duesser (Benary) deep rose, crimson flake.  
Madame Van Houtte (Benary) yellow ground.  
Professor Virchow (Benary) rose flaked.  
Dan Godfrey (Turner) scarlet flake.  
Agnes Chambers (Turner) yellow ground, lilac edge.  
No. 97 (Douglas) yellow, faintly striped.  
No. 62 (Paul & Son) crimson flaked.  
Grandiflora (Veitch) deep rose.  
PICOTEES.—Margaret Rueder (Benary)  
Redbraes (Benary).  
Romeo (Paul & Son).  
Mr. Rudd (Turner).  
Favourite (Turner).  
Mary (Turner).



*Two Marks.*

CARNATIONS.—Rosy Morn (Douglas) pink.  
J. R. Allinson (Ware) rose self.  
Feureball (Benary) deep scarlet self.  
Horace (Dau) scarlet self.  
Beatrix (Fisher, Son, & Sibray) buff self.  
Terra Cotta (Turner) streaked.  
Van Dyck (Benary) slate and crimson flaked.

*Three Marks.*

Godetia Duchess of Fife (Daniels Bros.) blush with large carmine blotches.  
Chrysanthemum (annual) Sibthorpi (Dean) bright yellow, very free flowering.  
Chrysanthemum (annual) multicaule aureum (Dean) yellow, dwarf.  
Viola The Mearns (Dobbie & Co.) lower petals dark purple, top pale lilac.  
Viola Croft House (Dobbie & Co.) white, fine habit.  
Pansies for strain (Dobbie & Co.).  
Pansies for strain (Hooper).

*Two Marks.*

Viola virginalis (Dobbie & Co.).—Large pure white.

*Three Marks.*

SWEET PEAS.—Mrs. Sankey (Eckford).—Pure white, fine.  
Mrs. Gladstone.—Delicate pink standards, wings blush, edged with pink.  
Captain of the Blues.—Standards bright purple blue, wings pale blue.  
Princess of Wales.—Shaded and striped mauve, on white ground.  
Isa Eckford.—Creamy white, suffused with rosy pink.  
Senator.—Shaded and striped chocolate on creamy ground, fine.  
Countess of Radnor.—Pale mauve standards, wings pale lilac.  
Monarch.—Bronzy crimson standards, rich deep blue wings, fine.  
FUCHSIAS.—Single white corolla, Flecon de Neige (Cannell).  
Double White.—Berlines Kind, Gustave Doré (Cannell).  
Single Red.—First of the Day, Adolphe Legour (Cannell).  
Salmon.—Earl of Beaconsfield, Aurora superba (Cannell).  
Fancy.—President Grévy (Lemoine).  
Pentstemon La Foudre (Lemoine) fine scarlet.

## FRUIT AND VEGETABLE COMMITTEE.

A meeting was held at Chiswick on this date. Present: P. Crowley, Esq., in the chair; Dr. Hogg, Messrs. Lee, Rivers, Warren, Dean, Bates, Balderson, Willard, Cliffe, Denning, Reynolds, Hudson, and Wythes.

The Committee inspected the collections of Runner and Dwarf French Beans, &c., growing in the gardens, and made the following awards:—

*Three Marks.*

DWARF FRENCH BEANS.—Mohawk, Smyth's Speckled Hybrid, Fulmer's Forcing, Sion House, Ne Plus Ultra, Dark Dun, Ne Plus Ultra (Veitch).

Ne Plus Ultra (Harrison).

Wax Mont d'Or, yellow-podded Butter Bean, found to be of excellent quality (Vilmorin).

PEA.—Sequel (Laxton), dwarf, deep green Marrow.

## AUGUST 11TH.

CARNATIONS and Picotees were again the chief features at the Drill Hall on Tuesday, and many expressions of approval were heard respecting the unconventional mode of arrangement adopted. Groups of Caladiums, hardy flowers, Crotons, Bouvardias, and Ferns also occupied considerable space, together with the exhibits before the Fruit Committee.

FRUIT COMMITTEE.—Present: P. Crowley, Esq., in the chair, with Rev. W. Wilks, Dr. Hogg, and Messrs. John Lee, R. D. Blackmore, James H. Veitch, J. Cheal, G. Bunyard, A. H. Pearson, J. T. Saltmarsh, G. Wythes, A. Dean, C. Ross, G. Norman, H. Balderson, G. Reynolds, G. W. Cummins, J. Hudson, F. Q. Lane, and J. Wright. Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, sent a dish of Rivers' Prolific Plums, from a wall tree; they were large, quite ripe, and very fine. Also a dish of splendid Humboldt Nectarines, as well as a number of dishes of Gooseberries. A cultural commendation was adjudged for the Nectarine, and a bronze medal recommended for the collection.

Mr. R. Nicholas, The Gardens, Castle Hill, South Molton, sent a dish of a very fine Cherry, a seedling. It resembled the St. Margaret (Tradescant's Heart), and more information was desired about the parentage and culture. Mr. R. Mayer, Yattendon Court, Newbury, sent a seedling Grape from the Sweetwater and Alicante. The berries were reddish, rather small, sweet, but had suffered in transit. No award was made.

Mr. S. Mortimer Rowledge, Farnham, sent fruits of his Cucumber Matchless, the result of a cross between Express and Lockie's Perfection. They were extremely uniform, smaller, and smoother than Express, and a first-class certificate was awarded.

A new Melon was placed on the table from Mr. C. Ross, Welford Park. The fruit very large, roundish, well netted, scarlet flesh, very sweet. Award of merit. Mr. G. Wythes sent three new Melons, which were passed. Messrs. H. Cannell & Sons also sent new Melons, but much over-ripe, and no opinion could be formed of their merits.

Mr. R. D. Blackmore sent from Teddington a dish of dark coloured Peaches, grown from a standard tree, not against a wall. Trees were obtained from America of Amsden, Alexander, and Waterloo, but Mr. Blackmore finds them similar, if not identical. An unanimous vote of thanks was awarded. St. Etienne Plum, a small early yellow cooking Plum, was sent from Chiswick, and awarded an award of merit. A few dishes of new Peas were placed on the table, and one from Mr. H. Balderson, resembling a very fine form of Ne Plus Ultra, was recommended to be tried at Chiswick.

Mr. T. Burton, Bexley Heath, sent eight boxes of Peaches and Nectarines, the fruits of Alexandra Noblesse having been gathered from a standard tree from under glass, bearing fifty dozen of similar fruits. They were very good, as were the others in the collection, and a silver medal was recommended. Messrs. James Veitch & Sons exhibited seventy-five dishes of Gooseberries, twenty-five of Apples, four of Pears, four of Cherries, two of Plums, and seven of Currants—a valuable and imposing collection, for which a vote of thanks was unanimously accorded, a silver medal having been granted for their fine collections at the last meeting. The finest culinary Apples were Dutch Codlin, Potts's Seedling, Grenadier, Lord Grosvenor, and Frogmore Prolific. Dessert.—Early Red Margaret, Mr. Gladstone, Irish Peach, Red Astrachan, and Devonshire Quarrenden.

FRUIT FOR COTTAGERS.—A number of forms had been sent out by the Secretary with a request that the recipients fill in the names of the most suitable varieties of fruit for growing by cottagers and farmers. A number of varieties were named and put to the vote, with the following result:—

Dessert Apples.—Cox's Orange Pippin, King of the Pippins, Worcester Pearmain, Devonshire Quarrenden, Sturmer Pippin, Irish Peach, Duchess of Oldenburg, and Braddick's Nonpareil.

Culinary Apples.—Warner's King, Ecklinville, Stirling Castle, Lane's Prince Albert, New Hawthornden, Keswick Codlin, Lord Suffield, Lord Grosvenor, Blenheim Pippin, Bramley's Seedling, Potts's Seedling, and New Northern Greening.

Plums for Cooking.—Rivers' Prolific, Victoria, Czar, Gisborne's Cox's Emperor, and Monarch. The names of the dessert Plums were not obtained. A list of Pears was not produced because, the Secretary said, of the inability of several persons to fill in the form indicating the period of use of the varieties. The Strawberries chosen were Sir Joseph Paxton, President, and Vicomtesse Héricart de Thury. Of other fruits returns were not presented. Some very careful revision is needed by competent men to render the lists in the highest degree satisfactory for the purpose intended. Four or five experts, such as Messrs. Bunyard and Paul (on the Council), and Messrs. Rivers, A. H. Pearson, and Barron, would produce a more useful list than could be evolved by a large body of advisers.

FLORAL COMMITTEE.—Present: W. Marshall, Esq., in the chair, and Messrs. W. Goldring, H. Herbst, R. Dean, F. Ross, G. Phippen, G. Paul, H. Turner, C. Noole, T. W. Girdlestone, T. Baines, H. Cannell, J. Fraser, J. Laing, B. Wynne, G. Gordon, and Dr. M. T. Masters.

Messrs. J. Veitch & Sons, Chelsea, exhibited a beautiful group of plants suitable for table and decorative purposes generally, Palms, Ferns, Crotons, Dracaenas, and many others being represented similar to those of which a list was given last year. The Committee signified their appreciation of the exhibit by awarding a silver-gilt Banksian medal. Messrs. H. Cannell & Sons, Swanley, had collections of Cactus Dahlias in many bright varieties, also of double Tuberous Begonias, excellent alike in form and colour. Mr. H. Rawlings, Old Church, Romford, showed a box of new Dahlias, some unnamed, and three others—Mrs. McIntosh, orange buff; George Hurst, deep scarlet; and Mrs. Ocock, yellow-tipped pink. Messrs. Pitcher & Manda, Hextable, sent a large double variety of Achillea ptarmica, named The Pearl, the flower heads pure white and slightly fringed.

Caladiums were excellently shown by Mr. C. F. Bause, Morland Nursery, South Norwood. The plants of moderate size, the leaves large, and the colours most varied and rich (silver-gilt Banksian medal). Messrs. Paul & Son, Cheshunt, had a collection of hardy flowers and Roses; amongst the latter T. B. Haywood, Paul's Cheshunt, Scarlet, and Kaiserin Friedrich being especially noteworthy.

From the Society's Gardens, Chiswick, a collection of Carnations was sent representing many varieties. Six boxes of Gloxinia flowers from Messrs. J. Peed & Sons, Roupell Park Nurseries, formed an important exhibit, the strain being an excellent one (vote of thanks). Messrs. Hurst & Son, 152, Houndsditch, showed a collection of double annual Chrysanthemums curiously varied in tints (vote of thanks).

A beautiful group of Campanulas was shown by Mr. G. Wythes, chiefly blue and white varieties of C. pyramidalis, which are well adapted for arranging in this way (silver Banksian medal). Mr. G. Wythes also showed flowers of the Giant Cereus hexagonus, and Mr. J. Hudson, Gunnersbury House Gardens, had a collection of stove plants in several pots. Messrs. Stuart & Co., Covent Garden, sent flowers of Pompon and other Zinnias. Messrs. James & Son, Farnham Royal, had some fine Pentstemons. Mr. C. Leeson, Melton Road, Wrawby, showed some seedling Begonias; and Mr. Cheksfield, Tenterden, sent a seedling decorative Dahlia. D. Larnach, Esq., East Grinstead (gardener, Mr. Glen), showed Lobelias Emperor William and Duchess of Fife, the latter bright blue with a white eye. Messrs. Dobbie and Co., Rothesay, contributed interesting collections of French and African Marigolds and Pansies (silver Banksian medal). Mr. H. B. May, Upper Edmonton, had extensive groups of Crotons, Ferns, Bouvardias, healthy plants in the usual market style (silver-gilt Flora medal).



A class was provided for twelve stove and greenhouse plants, and Mr. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, was awarded the first prize with Palms, Ferns, Crotons, and *Sobralia macrantha*—well-grown plants.

Mr. Martin R. Smith's liberal prizes for Carnations and Picotees brought a capital competition, the flowers being shown as cut from the plants with foliage in bottles, vases, or metal stands had a charming appearance.

In class A for twelve trusses of border Carnations Mr. W. H. Divers, Ketton Hall Gardens, was first, followed by Mr. Blick, The Warren, Hayes, Kent, and Mr. W. A. Gearing, The Gardens, Oak Lodge, Sevenoaks, was third in a good competition. In class B for twelve varieties of self coloured border Carnations Mr. Blick was first, showing Mrs. Muir, Clovis, Dr. Hood, Tona, Dainty Dick, Roma, Marion, Albatross, and Mary Morris, with several seedlings, all of excellent size and substance. Mr. H. Horrington, Shrubland Park Gardens, Suffolk, was second, and Mr. J. Walker, Thame, third. In class C, for eighteen varieties of flake, bizarre, or fancy Carnations or Picotees, Mr. Blick was again first with fresh and beautiful blooms, many being seedlings. Mr. J. Douglas, The Gardens, Great Gearies, was second, and Mr. J. Walker third.

Messrs. J. Veitch & Sons had a collection of Carnation and Picotee blooms (vote of thanks). Mr. M. Rowan, Clapham, showed six boxes of Carnations and Picotees with foliage (silver Flora medal). Mr. E. C. Gobb, Walcot, Ryde, showed border Carnations with foliage and without dressing (vote of thanks). Mr. Charles Turner, Slough, had a wonderful collection of Carnation plants and cut blooms, comprising many novelties, for which awards were granted (silver Banksian medal).

ORCHID COMMITTEE.—Present: A. H. Smee, Esq., in the chair; Dr. M. T. Masters, and Messrs. H. M. Pollett, H. Ballantine, E. Hill, Henry Williams, J. Douglas, and Lewis Castle.

Orchids were not numerous, but there were a few novelties of merit, for which awards and certificates were granted. The Duke of Devonshire, Chatsworth (gardener, Mr. O. Thomas), contributed a group of *Disa grandiflora*, strong plants, bearing numerous flowers (vote of thanks). Messrs. J. Veitch & Son, Chelsea, sent several new Orchids, for which certificates were awarded; and a hybrid *Cypripedium*, named *Cicola*, from *C. Schlumi* album and *C. reticulatum*, with white sepals and petals, and a faintly pink-tinted lip.

F. Wigan, Esq., Clare Lawn, East Sheen (gardener, Mr. W. H. Young), sent a plant of the peculiar *Lycaste tetragona* with brownish streaked purple lipped flowers. The white *Dendrobium longicornu* with orange striped lip was also shown. C. J. Lucas, Esq., Warnham Court, Horsham, exhibited a strong plant of *Angraecum Ellisi* bearing a long raceme of twenty-two pure white flowers (cultural commendation). The small creamy white flowered *Thrixspermum Berkleyi* was also sent by the same exhibitor. T. Statter, Esq., Stand Hall, Whitefield, Manchester, sent plants of *Phaius Humbloti rubescens*, the flowers deeply tinged with red; *Bollea coelestis superba*, dark purple; the rich *Laelia elegans Turneri*, and *Dendrobium Statterianum* (award of merit).

#### CERTIFICATED PLANTS.

*Cypripedium Corningianum* (J. Veitch & Sons).—A hybrid from *C. superbiens* and *C. phillipense* with distinct and handsome flowers, the dorsal sepal veined with purple on a white ground, the long broad drooping sepals having numerous dark purplish dots and margin of dark hairs. The lip is neat and greenish (first-class certificate).

*Cypripedium macrochilum* (J. Veitch & Sons).—A hybrid from *C. longiflorum* and *Uropedium Lindeni*, the colour resembling the latter parent, the sepals, petals, and lip being very long. A most interesting cross, distinct in character (first-class certificate).

*Dendrobium Statterianum* (T. Statter, Esq.).—An imported plant, with slender straight pseudo-bulbs and abundant flowers of medium size, somewhat suggestive of several species in the *D. crassinode* section. The sepals and petals white, tipped with deep purple. The lips round, shallow, yellow in the centre, margined with white, and tipped with purple. The same plant flowered at this time last year, and the flowers lasted about a month.

*Cattleya Gaskelliana*, var. *speciosa* (Segger & Tropp, Dulwich).—A beautiful variety, with pure white sepals and petals, faint golden at the base, crimson in the centre, and edged with white.

*Caladium M. Leon Say* (C. F. Bause).—A strong variety, with bright glossy red leaves and a few lighter spots.

*Caladium Louis Van Houtte* (C. F. Bause).—Leaves of great size, very dark red with a metallic gloss.

*Rose Charles Gater* (Paul & Son).—A Hybrid Perpetual, with dark crimson substantial flowers of great substance, and extremely fragrant.

*Carnation Edith M. Wynne* (C. Turner).—Yellow ground, heavily edged with dark red running into the petals.

*Carnation Countess of Jersey* (C. Turner).—Paler yellow, light rose edge, very pretty.

*Carnation Madeline* (C. Turner).—Pure white, delicate pale rose edge, very fine.

*Mrs. Walford* (C. Turner).—Sulphur yellow with few red streaks.

*Carnation Queen of Bedders* (C. Turner).—An excellent variety, extremely floriferous, of good habit and capital colour, a bright shade of red, the petals fringed at the margins.

*Carnation Ruby* (C. Turner).—A brilliant rosy crimson self, of fine form and substance.

*Carnation Victory* (C. Turner).—Buff streaked with bright red, most distinct.

*Carnation Mrs. Robert Sydenham* (J. Douglas).—A fancy variety with pale yellow; ground colour edged with light rose.



EVENTS OF THE WEEK.—On Saturday, August 15th, the National Co-operative Horticultural Exhibition will be held in the Crystal Palace, Sydenham. The General Committee of the National Chrysanthemum Society will hold a meeting in Anderton's Hotel, Fleet Street, at 7 P.M. The great annual Show at Shrewsbury takes place on Wednesday, August 19th.

— THE WEATHER.—This has been extremely unsettled of late: Thunderstorms, with drizzling rains between them, and now and then a fine day, have been the prevailing features. Lawns are as green as in spring, and weeds can scarcely be subdued. The temperature has not ruled high, or the Potato disease would have been more prevalent than it is. Bright settled weather is much needed in gardens and fields.

— A GIGANTIC FLOWER SHOW.—Great preparations are being made for the Sixth National Co-operative Flower Show, to be held at the Crystal Palace on Saturday, August 15th, in connection with the Annual Co-operative Festival of 1891. This show of flowers, fruit, vegetables, and honey, the produce of working men's gardens and allotments, has grown to such dimensions that it is now probably the greatest of the kind. Last year there were over 4500 entries, from all parts of the kingdom, the produce filling one side of the great transept from end to end. The exhibits were of such a high order that the fourteen judges who awarded the prizes declared that nothing better had been seen at any exhibition of the year than the vegetables shown by these working-class cultivators.

— THE YORK GALA.—The last duty of the Council and life members of the Grand Yorkshire Gala was performed recently. Their work must have been of a highly pleasant nature, as it showed that, as a result of the hard work and worry which they had voluntarily undertaken, they were able to hand over £200 to local charitable institutions. The sum was apportioned as follows:—York County Hospital, £50; York Dispensary, £50; Wilberforce School for the Blind, £25; York Industrial School for Boys, £20; York Industrial School for Girls, £20; Blue Coat Boys' School, £12 10s.; Grey Coat Girls' School, £12 10s.; York Girls' Friendly Society, £10; total £200. As the profits of the Gala amounted to £290, there will be £90 to carry forward towards next year's Gala, which we trust may be even more successful than the former ones.

— ROSES AT KING'S NORTON.—We have received a newspaper report of the King's Norton Horticultural Show. Such reports are rarely suitable for our columns. We observe some Roses exhibited by Mr. H. Bloomer are highly spoken of, and a correspondent informs us the following are the varieties that attracted attention in his stands:—Madame Eugène Verdier, Madame Marie Verdier, Dupuy Jamain, Souvenir de la Malmaison, Ulrich Brunner, La France, Earl Dufferin, Henry William Eaton, Alfred Colomb.

— REFERRING to your report of THE SOUTHAMPTON SHOW, August 6th, page 117, there is an error in the address. My son, Mr. S. G. Rumsey, is at Wrotham, Kent, not Waltham Cross. Kindly note this in future to prevent confusion and delay of letters.—W. RUMSEY, Waltham Cross.

— FLOWER SHOW IN RAGLEY PARK.—A successful Cottagers' Show was held in the extensive and well-wooded park of the Marquis of Hertford on the 3rd of August. Peas, Carrots, and Gooseberries were exceptionally good. Of the first-named forty dishes were put up in the single dish class, the first prize being awarded to Sharpe's Queen. Mr. A. D. Christy, the gardener at Ragley, put up a fine collection of fruit not for competition, which included good black and white Grapes, a splendid dish of Sir J. Paxton Strawberry, Barrington Peaches, and Violette Hâtive Nectarines. The same exhibitor also secured the premier position for a group of foliage plants in the division for gentlemen's gardeners, but flowers were well shown by several trade firms. Both the Marquis and Marchioness of Hertford made a prolonged inspection of the show tents, and by their kindness in throwing open their extensive, beautiful, and well-kept flower and pleasure gardens added greatly to the attractions of the day, and, as might be supposed, was thoroughly appreciated and taken advantage of by the large number of visitors who attended the Show.



— GARDENING APPOINTMENT.—Mr. William Parks, who has been gardener at Fernside, Bickley, for seven years, has been appointed gardener to William Parker, Esq., Whittington Hall, Chesterfield.

— ANCIENT SOCIETY OF YORK FLORISTS.—Under the auspices of this Society services were held in the church of St. Michael-le-Belfrey, York, on Sunday last, £10 being collected in aid of the county hospital and dispensary, making a total sum of £30 which the Society has obtained for charitable purposes within the last three years.

— WARE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—A meeting was held by this Society on the 4th inst., when a paper was read by Mr. E. Wallis, The Gardens, Hamels Park, on "Tuberous Begonias." The subject was ably treated, and a long discussion followed. Some good Melons were shown by Mr. Smith, Presdales, and Mr. King, and Begonias by Mr. Brown and Mr. Smith. A hearty vote of thanks was accorded to Mr. Wallis for his paper.

— FRUIT AT COURT HEY, LIVERPOOL.—Apples of many kinds are good. The most reliable dessert varieties are Cox's Orange and Ribston Pippins, Irish Peach and King of Pippins. These seldom fail. Kitchen varieties are Keswick Codlin, Lord Suffield, Eeklinville, Cellini, Hawthornden, Lady Henniker, and Alfriston. Pears are a good crop, the best being Beurré Diel, Jargonelle, Marie Louise, Williams' Bon Chrétien, and Louise Bonne of Jersey. Cherries are a fine crop as regards dessert varieties. Black Eagle, Bigarreau, May Duke, White Heart, and Waterloo are all good, and have fine fruits. Morellos are only moderate, the same remark applying to Strawberries and all bush fruits with the exception of Red Currants, which are extremely fine. Peaches and Nectarines Mr. Elsworthy does not grow outside.—P.

— MR. MAJOR'S CACTACEOUS PLANTS.—As has been previously stated, probably the finest private collection of Cactuses and succulent plants in the kingdom is to be found at Cromwell House, Croydon. Grotesquely interesting are many of the plants, while others are remarkable for the beauty of their flowers. Blooms of different forms of the Night-flowering Cereus have been plentiful, causing Mr. Major, his family, and friends to sit up "late o' nights" to admire them, the owner further being up with the lark to photograph them as soon daylight appeared. There are numbers of seedling Phyllocacti, many having flowered, and are charming in colour. These are mainly the result of crossing by a late gardener at Cromwell House—Mr. W. Wright, now of Talygarn, South Wales. Among the many curious plants is an Opuntia with a rugged spiny stem some 6 feet high, and an extraordinarily contorted head. It is flowering freely, but is not satisfied to do so in the ordinary way. Last year it flowered and formed seed pods, and now directly from the ends of these pods, which are still green, two or three flowers are produced. In this garden there is a great deal that is interesting in a small space, and Mr. Frost, who was previously foreman in the gardens of Mr. Smee at Hackbridge, discharges his duties well, and is treated well in turn by a good and appreciative master.

— THE employés, numbering eighty, of the firm of MESSRS. JOHN LAING & SONS, Forest Hill, had their annual beanfeast on Friday, August 7th. Journeying from Forest Hill Station they reached Eastbourne shortly after 10 A.M., when each one amused himself according to his own fancy until one o'clock, when all assembled at the "Lamb Hotel," where an excellent dinner was provided. After dinner, the usual loyal toasts being honoured, Mr. Sykes in a few chosen words proposed the health of the firm, which was heartily received, the toast being responded to by Mr. Laing. All again went their own way, meeting at Eastbourne Station at 8.30 P.M. for the return journey, reaching Forest Hill about 10 P.M., all being thoroughly satisfied with the day's outing.

— ALL readers of the Journal who are interested in Rose-growing will be pleased to hear that the well-known and most successful amateur, MR. W. J. GRANT, has obtained a position for which he is eminently qualified. The County Council of Monmouthshire have created a Department of Agriculture, Horticulture, and Forestry, with other technical education, and have placed him at the head of it. His management of the large estate at Hope End, Ledbury, with its many branches of farming and stock-keeping, his knowledge of horticulture in its various branches, and his business education have, no doubt, led to this appointment, and it will be the earnest wish of his many friends that he may long be spared to carry out the duties of his important and responsible position.

— TROLLOPE'S VICTORIA STRAWBERRY.—In reference to the disparaging statements of "W. I." in your last issue (page 88), we have known this variety for thirty years, and (with all due respect to the experience of "W. I.") it has always proved a favourite in this locality; and in enclosed gardens is the only one that succeeds. It has given great satisfaction to our customers, coming invariably good even in wet years, such as the present, and in dry seasons is quite first-rate, and we should think the true variety has not been grown by "W. I." It is a soft fruit, and should be gathered into the dish, but for home consumption is invaluable, and we must adhere to the description in our catalogue.—GEORGE BUNYARD & Co., Maidstone.

— PEACH WATERLOO.—Those who have trees of this variety in a bearing state will perhaps agree with me that it is of the greatest value not only for house culture but also for planting against sunny open walls. It ripens very early under glass, even if not forced, and in the open we commenced gathering ripe fruit on August 1st. The tree is of free yet not rank growth, the fruit sets well, and attains a moderately large size. The colour is a rich red, and the quality of the fruit, if not kept too long, decidedly good. Under precisely the same treatment Hale's Early is fully a fortnight later, but there is not much difference in the time of ripening between Waterloo and that other valuable early variety Early Alexander.—W. I.

— WADDON HOUSE GARDENS.—The gardens of P. Crowley, Esq., near Croydon, have long been famed for specimen and other plants, which are well grown by Mr. King, the gardener. Within the past two or three years great additions have been made to the hardy fruit department, and the collection is now both choice and extensive. A feature under glass is a fine Citron growing against the back wall of a lean-to house and informally trained down the roof, the large fruits being like a heavy crop of Melons, some of them weighing 6 lbs. to 7 lbs. each. They are preserved, both green and ripe, by Mrs. Crowley, and are very delicious. The popular Chairman of the Fruit Committee of the R.H.S. might appropriately and usefully place examples of the fruit thus prepared, with hints on the method of preparation, before his colleagues, as probably few of them or the public are aware that Citrons can be made to form such an agreeable table delicacy. Mr. Crowley provides every requisite for the successful management of his garden, and his gardener proves himself worthy of the encouragement he receives. Mr. Crowley's collections of insects and birds' eggs are amongst the richest in the kingdom, specimens having been obtained from all parts of the world.

— DANIELS & BROS.' OUTING.—The employés of this firm in the seed department, offices, and farm at Norwich, to the number of sixty, held their annual outing on Monday, July 27th, when, although the weather was rather unfavourable, the success was assured. As the hands in the nursery department had a fortnight previous taken their leave of absence, selecting the Crystal Palace as their rendezvous, they did not accompany the party. The partners, Messrs. George and Charles Daniels, were present, and greatly conduced to the success of the day. Starting from the retail establishment in Exchange Street, Norwich, they journeyed in three waggonettes to Cromer, via Coltishall, where they breakfasted, thence proceeding to North Walsham, where another stop was made, eventually arriving at Cromer at 12.30 P.M. Here they were met by several gardeners in the neighbourhood, who partook of dinner with the company at the "Red Lion Hotel." A section then proceeded to Cromer Hall, others journeyed to Cliff House, the residence of S. Hoare, Esq., M.P., whilst some were content with a stroll along the beach or cliffs. A start was made for the return journey at 4.45, and on arriving at Aylsham a substantial tea was in readiness, after which the health of the firm was proposed, thanks were returned to them for a generous release from business, and eventually Norwich Market Place was reached at 11.30 P.M.

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, for July, 1891.—Mean temperature of month, 59.1°. Maximum on the 16th, 77.8°; minimum on the 5th, 42.4°. Maximum in sun on 21st, 128.3°. Minimum on grass on 5th and 25th, 36.1°. Mean temperature of air at 9 A.M., 60.5°. Mean temperature of soil 1 foot deep, 59.7°. Sunshine, total duration in month, 139 hours, or 28 per cent. of possible duration. We had one sunless day. Total rainfall, 2.42 inches. Rain fell on fifteen days. Wind, average velocity, 8.5 miles per hour; did not exceed 400 miles on any day, and fell short of 100 miles on three days. Approximate averages for July.—Mean temperature, 61.2°; sunshine, 160 hours; rainfall, 2.36 inches. A dull and cool month without any warm summer weather.—J. MALLENDER.



— THE WEATHER DURING JULY.—The weather here during the past month was not just what we on this cold, heavy soil should like it to have been. But it has been the driest July since Jubilee year, and on the whole vegetable crops have done well, also trees and shrubs that were planted last spring. There has been a continuance of thunderstorms, but none of them of a very severe nature here. Rain fell upon eighteen days, the maximum in any twenty-four hours being 0.43 inch on the 7th, minimum 0.01 inch on the 27th; total for the month, 2.48, against 4.81 in 1890.—E. WALLIS, *The Gardens, Hamels Park, Buntingford, Herts.*

— I WONDER gardeners do not use POTS GLAZED ON THE OUTSIDE. I have had them in use some three or four years—in fact, am gradually weeding the old sort out by buying all new ones glazed. The advantages claimed for the glazed pot are, 1, appearance; 2, the plants do not require watering so often; 3, if the soil becomes dry it does not crack away from the side of the pots as in the ordinary ones, and consequently the roots are not dried in one pot more than another; 4, the plants look better; by this I mean they do not lose their leaves at the bottom as in the ordinary pots; 5, the pots never want washing, but always look well. Now for the disadvantage, and there is only one, viz., that they are slightly more expensive. Gardeners and nurserymen have all admired the growth of the plants in my houses and outdoors as well. For table decoration, &c., they require no ornamentation; they do as they are.—J.

— HARDINESS OF NICOTIANA AFFINIS.—In a recent issue "W. I." appeared to be surprised to find that the above plant had passed through the last severe and trying winter unhurt, but here *Nicotiana affinis* is one of the hardiest plants we have; every piece of its fleshy roots that is left in the ground in the autumn will grow in the following spring. I have a spot in this garden where some seed was sown six or seven years ago, and plants have come up and flowered annually ever since. Last year I planted a border with early *Chrysanthemums*, *Mignonette*, and the *Nicotiana*, and this summer they have come up thickly and strong, and are just coming into bloom. I have taken some two dozen of these plants up and placed them in pots behind a north wall, they will come in useful for the greenhouse in the autumn. These, with *Mignonette* and *Heliotrope*, will sweeten the air of the house most agreeably.—T. A., *Cirencester.*

— STRAWBERRIES.—I am not quite sure that all your readers will be entirely in touch with the views your correspondent "W. I." holds regarding Trollope's Victory Strawberry, as it has been in years past valued much by many market growers as well as private cultivators. In the Bath district it was at one time held in high favour. When I lived in that district I have seen it at Longleat, Rood Ashton, and other places grown extensively for forcing. My objection to it for that purpose was that it did not carry well, and had to be put under exceptional treatment to get it hardened before being packed. Mr. Sheppard, Wolverstone Park, a most successful Strawberry grower, forced that variety extensively, and I have heard him speak highly of it. Princess Alice Maud was also grown extensively in the Bath district, and for heavy cropping and also forcing I have never yet seen a Strawberry which could surpass that old favourite. I had thought it was out of cultivation, and I am pleased to learn that your correspondent has favour for it. I have some hopes that it may be procured. I have tried many here which I know to be excellent in northern latitudes, as well as in the South-East and West of England, but I have had to discard many of them. The best I have seen (answering all purposes) are President and Vicomtesse Héricart de Thury. The latter, under the name of Garibaldi, is found in most Scotch collections.—M. TEMPLE, *Carronhouse, Stirlingshire.*

### CARNATIONS AT SLOUGH.

A GLANCE at the headline will be sufficient for most readers of garden literature to recognise the "location," as our American friends say, of the Slough Carnations—the flowers of the month—which so many admirers of them go out to see and be satisfied. But all are not satisfied with what they see in the Royal Nurseries, which have so long been associated with a great name in the floricultural world, Charles Turner, for they want to see many of the varieties elsewhere. To this the present "Charles Turner" (and it takes two good men to make him) appears to have no objection; at least half of him was caught quietly booking orders, while the other half, with the florists' fire burning brightly within him, pointed out with warm appreciation the gems of the collection. The veteran John Ball was at hand, and in his quiet way hit off their characteristics, while Mr. "Joe" Lakin of Oxford was evolving from his floral head apt and appropriate names for the seedlings. An

oldish man from the city was taking all in he could, and a youngish man from the country appeared to be helping him. It was a happy day among the flowers. Let us look at a few of them.

Large light houses were filled with plants in 8 or 9-inch pots, healthy in growth, and bearing the most charming flowers imaginable in all the richness, delicacy, and diversity that is to be found in a great collection of Carnations and Picotees. Numbers of plants in pots were growing in the open, numbers more were planted out, and layers were being tongued and pegged down by the thousand. Slough is evidently a great emporium of these flowers, and the world appears to know it, or surely such a great provision would not be needed to meet its wants. Some, indeed many, of the outdoor flowers of the florists' type were undeniably beautiful, and some masses of the border varieties, rich in their profusion; but in the search for smoothness, refinement, also purity with brilliancy, the florists turned instinctively to the forest of blooms under glass, and there found plenty to see.

In glancing over the scarlet bizarres very fine blooms were admired of Robert Houlgrave (Barlow), one of the brightest and best, while two of Mr. Dodwell's varieties, James McIntosh and Robert Lord, were worthy associates and beautiful in their markings. In crimson bizarres the new and recently certificated variety, Dr. Hogg, commanded attention by the richness and clearness of its colours and the general high character of its blooms. E. S. Dodwell (Hewitt) shone brightly in this section, and will continue to shine for many a year, and the same may be said of Mrs. Maclaren (Fitch), one of the most clearly marked in the collection, while Rifleman (Wood) maintained its position for brightness and general good quality. The new variety, Harmony (Turner) is destined to take a high position among the pink and purple bizarres, being large, smooth, and distinctly attractive by its elateness and harmony of colours. Sarah Payne (Ward) was in superb condition, as was William Skirving (Gorton), two of the best of the established varieties.

Among the flake varieties there were many that compelled a pause, but only a few can be noted. Dr. Foster (Foster) was a striking purple flake, remarkable for its richness of colour and clearness, as was Charles Henwood (Turner). James Douglas (Simonite) was also in admirable condition, and Earl of Wilton very good. In the scarlet flakes there appeared to be an unanimity of opinion that the new variety, Charles Turner, was the king of the collection and worthy of its name. It impressed all by its breadth of petal, smoothness, clearness, and brightness, a splendid acquisition. Matador (Turner) broad petals and bright; Henry Cannell, John Ball, and Scarlet Keet, all Mr. Dodwell's, were represented by flowers of which the veteran might be proud, and Jupiter (Abercrombie) was very good indeed. In rose flakes Miss Erskine Wemyss (Dodwell) was extremely beautiful, and the same may be said of Thalia (Douglas) and Jessica (Turner), as charming a trio as one could wish to see.

Among the "self" varieties there were many so meritorious that it was no easy task to choose, and the youngish man from the country seemed as if he would like to grow them all. Duchess of Fife, soft delicate pink, smooth and free, won prompt approval. So did Rose Unique, the name of which is the first time printed, remarkable for smoothness and substance—a model bloom. Ruby, rosy crimson, was also of high merit, as was a variety of soft amber yellow, Lady Walker. Mrs. Muir, Annie Lakin, Emma Lakin, and Boule de Neige were among the purest whites. As a scarlet variety Dazzle is well named, and King of the Scarlets (Douglas) has probably a great future before it. Salamander, soft rose, large and smooth, was also very charming. Mrs. Clements, a pure clear yellow self, also Germania, of the same character, compelled admiration. Among the fancy varieties, Victory, buff, edged and marbled with crimson, was remarkable for its handsome blooms, and Romulus, similar in character, was also distinctly attractive.

Picotees were in great force. Amongst the red edged varieties John Smith (Bower), J. B. Bryant (Ingram), Mrs. Brown (Payne), Thomas William (Flowdy), and Dr. Epps were in superb condition. Purple edged, Clara Penson (Willmer), Juliette (Fellowes), Mrs. A. Chancellor (Turner), and Zerlina (Lord) were particularly fine; as were in the rose edged section, Favourite (Liddington), Louisa and Lucy (Addis), Edith Dombrain (Turner) very delicate, also Duchess, Mrs. Payne, and Mrs. Turner (Fellowes). Last to be mentioned, but not least in attractiveness, is the charming new variety Mrs. Henwood, soft yellow, with a clearly defined edge of scarlet, destined, probably, to become a great favourite in many gardens. And now we take a stroll outdoors, pausing to admire floriferous masses of such border Carnations as Queen of the Bedders, rosy scarlet, vigorous and free; Hotspur, rose, robust, and effective; Catherine, warm rose; Ne Plus Ultra, pure white, fringed, sweet; and Mrs. Aspley Smith, soft pleasing scarlet. We next look over a huge breadth of Pinks, pass through a few acres of Dahlias, peep into the frames of Auriculas, glance at housefuls of Tea Roses and show and fancy Pelargoniums (specimens cut down), then take a rest in the pretty embowered home in which the widow of the late great florist, Mrs. Charles Turner, has welcomed floral friends for years, and it is hoped will continue her pleasant greetings for many years to come. The Wistaria which covers the house is historic. It is one of the three plants first brought from China by the late Lord Grenville, the others being planted at Dropmore and Kew. The "old house," against which the Slough specimen was planted, was burnt down, but the trunk of the tree escaped destruction. It is now about 6 feet in circumference, and its growths spread far, flowering in profusion in the spring. This is all that can be said about the agreeable day spent with pleasant friends among beautiful flowers in the proverbially good nursery—"Turner's of Slough."—CITY MAN.



## HARDY FRUIT CULTURE IN SOUTH WALES.

[A paper read by Mr. A. PETTIGREW at the Cardiff Conference of the British Fruit Growers' Association, August 12th, 1891.]

THE climate and the soil and situation in many places in South Wales are admirably adapted for the cultivation of all kinds of hardy fruits. With these natural advantages, and the increasing

proper care be taken in selecting and cultivating the most suitable varieties.

There are few orchards in Glamorgan, and what few I have seen are (and have been) much neglected. To judge from the stunted sickly appearance of some of the trees, and the bushy mass of branches in others, nothing has been done to them in the way of pruning and manuring the soil since they were planted. The



FIG. 21.—MR. A. PETTIGREW.

demand for fruits of all kinds in our large towns and populous mining districts, it is surprising that some of our intelligent and energetic market gardeners have not long since made fruit growing a speciality on a large scale in the neighbourhood of Cardiff. After eighteen years' experience of growing fruit in this district I am thoroughly convinced that as fine Apples, Pears, and Plums, and other kinds can be grown here in the vales of Glamorgan, and in many other places all over the country, as those produced in the best fruit-growing counties in England if

planting, no doubt, in the majority of cases, was crude, and consisted simply of digging a hole without any previous preparation of the soil, putting the roots into it and covering them with earth, after which the tree was left to its own resources—nothing being done to it afterwards.

To be successful in the cultivation of fruits of any kind the best sites should be chosen, and the ground thoroughly prepared, when necessary, by draining, trenching, digging, and manuring before planting the trees. In orchards, Apple and Pear trees



should not be less than 30 feet apart each way, and none but the best trees—worked on the free stock—with straight clean stems of 6 feet before branching, and not more than three years old from the time of budding, should be planted.

I may say here that I remember an intelligent farmer telling me in all earnestness that his father was a successful cultivator of the Apple in this district, that he grafted his own trees, and those he grafted on the Grey Willow stock—which I take to be *Salix caprea*—succeeded the best on his heavy soil—the lias clay. It is needless for me to tell the members of the British Fruit Growers' Association that I have had no experience of that stock. Plants that have stood in nursery rows for years, and have been pruned repeatedly to keep their heads within bounds, seldom make good trees. When lifted they have scarcely any fibrous roots, and after replanting become stunted, and fail to make much growth for several years. On the other hand, young vigorous trees planted at the age mentioned start into growth at once, and soon become large and fruitful. In planting the varieties must be kept by themselves as much as possible for the sake of uniformity of growth and convenience in gathering and storing the fruit. Make the pit large enough to hold the roots without being cramped, and a strong stake driven into it to tie the tree to. After which, place the tree close to the stake, spread the roots out on all sides before filling in the soil, which should be made firm, but care must be taken not to plant it deeper than it was when growing in the nursery row. When planted secure the tree to the stake, prune it, and mulch the surface with manure to exclude air and to keep down evaporation. All that is required now is to protect it from cattle, sheep, and horses. Barbed wire guards I find the best; they are cheap, durable, and answer the purpose better than any other kind of protection that I know. The principal culture of orchard trees is during the first few years when they are young. It consists of pruning and cutting out all weak useless branches and those that cross each other, keeping the trees clean and free of insect pests, and top-dressing the ground with good manure to keep them in a vigorous and fruitful state.

#### FRUIT GARDENS.

The cultivation in the fruit garden is different from that of an orchard. Apple and Pear trees may be planted here a little closer, say from 18 to 20 feet apart, and trained in pyramidal form, and the ground worked and cropped between them with Gooseberry, Raspberry, Currant, and Strawberries, or vegetable crops, until they have filled their allotted space. I have recommended that the orchard trees be three years old from the time of budding; but for planting in the garden I prefer maidens or plants of one year's growth from the bud to those of four or five years' growth. They soon establish themselves, and grow faster than older trees, and can be trained to the form desired much easier. I repeat that too much care and attention cannot be taken in planting, and none but the very best trees should be planted to ensure successful cultivation.

There are several fine Apple and Pear trees in the castle gardens here, both on walls and in the open quarters of the garden, which are much admired by gardeners and others visiting the place. They were all planted, pruned, and trained under my supervision, and perhaps I could not do better than describe the mode adopted in growing and training them. To avoid repetition I may say the most of the trees were planted when maidens of one year's growth. The Pear trees on the walls are planted at the distance of 21 feet apart, and trained in fan-shape with a leader up the centre. When planting them they were kept away 6 inches from the bottom of the wall to allow room for the stem to swell, the roots were spread out carefully and covered, the ground made firm, and mulched with manure afterwards. The leaders were then cut back to within 18 inches from the ground and fastened loosely to the wall. In the following year they produced from three to five shoots each, which were carefully but loosely nailed to the wall as required during the growing season, and allowed to grow their full length without being stopped. At pruning time the centre shoot of each tree was cut back to within 18 or 20 inches from where it started, according to the strength of the growth, and the two or four remaining shoots, as the case might be, were nailed to the wall their full length; the two lower shoots horizontally, one on each side of the main stem, and the others at a slight angle up the wall. From this time on, until the trees had occupied their full space, they were examined regularly every spring shortly after starting into growth, and all the superfluous buds rubbed off the leading shoots, and a few of the buds near the ends of the permanent branches picked off to strengthen the terminal bud. I never shorten the points of the permanent branches until they have grown their full length, unless they have met with an accident, or the wood happens not to be sufficiently ripe to remain. The breastwood is taken off two or three times during the season, but I never pinch and stop the growths during the summer, as recommended by some writers.

To build up young trees and furnish the wall with them in the shortest time possible I have stopped the leading shoot of the current year's growth after it had grown about 2 feet in length, which caused it to send out lateral branches. These in good seasons ripened well, and a year's growth was gained by adopting this method; but I do not recommend it in a general way, as the success mainly depends on the seasons being good to ripen the wood thoroughly.

#### PRUNING.

The trees are pruned as soon after the leaves fall as possible, and the roots mulched with enough stable litter for a breadth of 3 feet from the bottom of the wall, after which the branches are syringed with a wineglassful of petroleum to a gallon of water. All is thoroughly mixed by the syringe, continually churning it up during the operation. The petroleum thus applied kills scale and all insects it comes in contact with, and it gives the bark of the trees a smooth and healthy appearance. This finished, the branches are then secured in their proper position for the year.

#### PYRAMIDAL TREES.

These, though differently trained, are built up much in the same way as wall trees. When newly planted they are cut down to within 18 inches from the ground, and the following year they produce from three to five shoots each. One of the strongest of these is selected for a leader, which ultimately becomes the stem of the tree, and all the others are rubbed off except three of the best placed, which are retained to form the base and framework of the tree. The shoots are allowed to finish the season's growth without being stopped in any way. When they are being pruned in the autumn the leading shoot is left from 18 inches to 2 feet long, according to the strength and ripeness of the wood (but as the trees get older the leading shoots may be left even longer) and the side branches a little shorter. This system is practised year after year, cutting out all cross and superfluous wood, and training and furnishing the tree with well arranged branches until it has filled its space, after which the growth is spurred in the usual way close to the permanent wood every season to form fruit buds. I do not believe that stopping and pinching the young shoots during summer adds to the productiveness of the tree; besides, it is impossible in large fruit gardens, where there is a great number of trees, to find time to do so.

I do not advise root-pruning to be practised except in cases where the roots have penetrated a cold wet subsoil, in which the trees produce strong rank unfruitful wood. When such is the case, and the trees are young, they should be lifted entirely, the strong roots cut back, and the fibrous roots spread out near the surface; but when the trees are large it is advisable to dig a trench 3 or 4 feet distant from the trunk all round, cut back the strong roots, and add some good soil to encourage fibrous roots to grow near the surface.

The Apple is more liable to the attacks of insect pests and disease than the Pear. The canker is the most difficult to deal with, and some varieties are more subject to it than others. When planted in low, damp situations the trees get covered with moss and lichen. They are also subject to the attacks of American blight, and this, in my opinion, is one of the principal causes of canker, but there is a great diversity of opinion about this. When once a tree is attacked with canker it is almost impossible to cure it, and the sooner it is grubbed out and a new one planted in its place the better. I think it is a mistake to lose time and valuable space with a sickly tree from any cause whatever when trees can be bought so cheaply from our nurserymen. Moss and lichen can be destroyed by dusting the trees with newly slacked lime on damp mornings during the winter months, and American blight by scrubbing the bark of the affected trees with a hard brush and soapsuds, and by frequent syringings of petroleum mixed in water as previously described.

Of Apples there are more than forty varieties, and of Pears about the same, grown in the Castle gardens. But the following twenty-four of each are amongst the most useful, both culinary and dessert. Apple: Devonshire Quarrenden, Irish Peach, Lord Suffield, Keswick Codlin, Lord Grosvenor, Potts' Seedling, Blenheim Pippin, Beauty of Hants, Cox's Orange Pippin, Ecklinville, Emperor Alexander, Gloria Mundi, Golden Noble, Hawthornden, Annie Elizabeth, Sturmer Pippin, Alfriston, Beauty of Kent, Dumelow's Seedling (Wellington), Lane's Prince Albert, Rymer, Warner's King, and Rushock Pearmain.

Of Pears the following twenty-four varieties are grown successfully, both on walls and pyramidal trees in the open. Duchesse d'Angoulême, Jargonelle, Summer Bergamot, Beurré Magnifique, Beurré d'Amanlis, Beurré Diel, Beurré Rance, Beurré d'Esperen, Durondeau, Louise Bonne of Jersey, Pitmaston Duchess, Uvedale's St. Germain, Thompson's, Brown Beurré, General Todtleben, Doyenné du Comice, Glou Morceau, Winter Nelis, Marie Louise,



Beurré Bosc, Beurré Clairgeau, Williams' Bon Chrétien, Vicar of Winkfield, and Gansel's Bergamot.

#### PLUMS.

The trees in the open quarters here are treated much in the same way as the pyramidal Apple and Pear trees, and those on the walls are pruned and trained the same as the Pear trees in that position. The Plum, like most of the stone fruits, is subject to the attacks of aphides, red spider, honeydew, mildew, gum, and canker. The aphides generally show themselves first on the points of the young vigorous shoots, which they cause to curl. As soon as they are observed the points of the shoots should be nipped off, to keep them from spreading over the tree, except in the case of the main shoots of wall trees, when the affected leaves should be picked off to preserve them entire. Syringing the trees with soap-suds and tobacco water keeps them in check, but once the trees are badly affected—the way they are in some places this season—it is not easy to get rid of them by any means. Honeydew is the effect of aphides' attacks. Red spider is difficult to master in dry seasons, and some districts are worse for it than others. All kinds of deciduous trees are subject to it in warm close confined situations like the Castle Gardens here. If once they get a strong footing it is almost impossible to eradicate them by any means. Mildew may be destroyed by sulphur in some form or other. Gum and canker cause the leaves of the affected trees to silver, and the branches to die back. When such is the case I know of no remedy except taking the trees out and planting young ones in their place.

There are many varieties of Plums to choose from, culinary and dessert. The following are what are chiefly grown in the Castle gardens:—Victoria, Denniston's Superb, Nectarine, Prince Engelhart, Bryanston Gage, Transparent Gage, Kirke's Purple, and Coe's Golden Drop. I have thus endeavoured, in as plain and practical a way as I could, to deal with the subject I was invited to speak upon; and I trust the remarks I have offered may have the effect of causing more attention to be paid to the culture of our hardy fruits.

[We have pleasure in publishing a portrait of Mr. Pettigrew in recognition of his long and able services in horticulture. He has made the gardens at Cardiff Castle what they are to-day, and the fruit trees in them are amongst the finest and most productive in the kingdom. He has also established vineyards in the district, and the Castle Coch wine has won the approval of connoisseurs. Mr. Pettigrew is a man of mark in gardening.]

#### AURICULAS AT NORWOOD GREEN.

A GOOD many years ago, when I was "free and unappropriated," I set off one very doubtful morning to visit a nursery some miles distant from the house of the brother parson with whom I was staying at the time, and when I came back in a very "druket" condition nothing would persuade him but that there had been a lady in the case. I don't suppose that he, or anyone else, would have laid to my charge anything of the kind if they had seen me stumping up from the Hipperholme station, near Halifax, one threatening day in the latter part of July that there was a lady in the case now. My brow is wrinkled now, "my locks are like the snaw"—i.e., the very few I have left, and yet in both cases there was a lady in the case. It was Lady Flora to whose charms I fell a victim in my early days, and who has cast her spell over me ever since.

It is now eleven years—so does time fly—since I gave in the Journal an account of my visit to Shobden Head, where the late Mr. Woodhead cultivated with so much success his favourite flower, the Auricula. Those eleven years had made some considerable difference to me. I should have been very sorry to have attempted that climb now, but my love for the Auricula had in no way changed, and probably had I been put on my mettle I should have made the attempt. I think my love for it would not have been questioned had anyone seen me in the midst of a thunderstorm, rushing for shelter in a friendly "pub."

Miss Woodhead carries on with, as we all know, her brother's culture of the Auricula, and under the management of her able gardener, Mr. McDonald, the collection maintains the character which I gave it years ago, as being one of the healthiest and best grown that I had ever seen. It is not often that one sees a collection kept up. Generally at the owner's death it is dispersed in one way or other, but here it has been fully maintained, and the houses in which they were grown at Shobden are still their home here.

Norwood Green is about a mile and a half from Hipperholme Station; the country was all new to me, and I had to inquire my way. I was amused by one answer, "Oh, yes, I kens now; it's next house to 'Little Dick's'"—I being, of course, in utter ignorance of who that illustrious party was. However, I found my way without any mishap, and found a pretty little cottage with a small garden, the greater portion of which was occupied by the old Shobden houses and others added to them, for Miss Woodhead's love for gardening extends beyond the Auricula. Her greenhouses were full of excellently bloomed plants of various kinds; the small garden which faces south on the slope of one of those many hills in which this part of Yorkshire abounds, was equally

full. Laced Pinks and Roses were in good condition and spreading a delightful fragrance around; but to me, of course, the Auriculas were the chief attraction. We can talk over them when there are only leaves to be seen; and although it is, of course, far more interesting to see them in flower, yet he who loves them delights to see them at any time when they are enjoying life and flourishing vigorously, and so as we there stood over the stages on which the Auriculas were reposing we had a pleasant chat about the plants. "What a pity," says Mr. McDonald, "that Mrs. Potts has such a slender stem, and that the truss is so loose owing to the footstalk of the flowers being of the same character." Its pips are exquisite in form, but this is a defect which detracts considerably from its claim to be the best self in cultivation. The old florists were very particular as to these characteristics, as well as to the flowers. It may be all very well to put sticks to them, although that was not permissible in former days; but for a plant not to be able to hold itself up without the aid of one is certainly a weak point. In this respect Mr. Woodhead's Black Bess contrasts favourably with it, although the quality of the flower is not equal to it. It, moreover requires not to be grown in too rich soil. Indeed upon this subject Mr. McDonald holds what I believe to be very orthodox views, contending that if we have a good strong loam the chief point is gained. Asking him about the complaints I had heard from other growers as to the failure of constitution in George Lightbody and Lancashire Hero—his plants of these were small—and he said that of late years he had found them much less vigorous than they used to be, while they are much more shy in producing offsets. It would be indeed a misfortune for lovers of the flower if this were to continue, for with all our seed raising in these later days, there are, in my opinion, no grey edges that can approach them, most of our modern greys running so much into white, and neither one thing nor the other. These two do, it is true, sometimes merge almost, if not quite, into green; but one can forgive this, for a green Lancashire. Conservative is of this character, sometimes a good white sometimes an indifferent grey, and very difficult to obtain in a large plant, as it is so given to throwing up offsets, and so takes off the strength of the parent plant. Acme has the same tendency, and it very often destroys the hope of the grower. This led us to the subject of white edges, and especially the fine seedling of which I had seen a pip this year, a decided white edge with a bright yellow eye; unhappily it is delicate in habit, and I fear that, like John Simonite, it will be a rarity, and that a good plant of it will not often be seen. Heap's Smiling Beauty is still in favour here, and is at times a very fine flower. Mr. McDonald agrees with me as to my estimate of Magpie, which I think is the best edged flower that Mr. Horner has raised. Of green edges the deficiency of good varieties was deplored, but few of the new ones exhibited being up to the mark. The Rev. F. D. Horner, bearing a name which is deservedly honoured by all Auricula growers, is regarded as the best green edge both for its beauty and vigour. There are points in which some of the older flowers may beat it, but taken as a whole there is not one of them equal to it. Colonel Taylor, as shown by Mr. Wilson of Halifax, who grows it better than anyone I know, sometimes shows it in fine condition, and then its green edge is unapproachable, but the tube is always more or less defective, and the same must be said of Prince of Greens, whose watery eye deadens the beauty of the plant. Of Heroine as a self Mr. McDonald has a high opinion, which is shared in by most people. Like most of the selfs too it is a good doer. I found here also some of the older flowers. Lord of Lorne is much appreciated for its brilliant colour, and as we know often holds a good place on the exhibition table.

Mr. Woodhead, like several more of us, was no great admirer of the Alpine section, and however beautiful they may be I cannot for one moment give them a place alongside their more refined and very charming sisters. We may regard them as the masculine development of the flowers, and the Show Auriculas as the ladies of the family. As I walked back to the station with Mr. McDonald we chatted of many subjects connected with our favourite, and I rejoiced to think that the fine collection was under such good care, and so lovingly watched over and enjoyed by the worthy sister of a worthy man.—D., Deal.

#### PRUNES IN THE SOUTH OF FRANCE.

(Continued from page 90.)

THE tree of the variety previously referred to is a very slow grower, requiring ten years to bring it into full bearing, though I saw some trees of six years old, very favourably situated, with a fair crop of fruit on them. The fruit also matures very slowly and is not ripe till all other fruits in the district, Apricots, Green Gages, Peaches, have ripened. The Plums are picked when just ripe, before the flesh has begun to soften, they are placed on *claires* or trays, one layer of Plums on each *claire*. The *claires* are made either of strips of wood or of wicker work, and are either triangular or round. They are a little deeper than the thickness of a Plum, so that when not in the ovens they can be safely placed upon each other. The *claires* when filled are arranged upon the bottom of the "fours" or inside the *étuves*, and the operation commences. Each homestead has a building in which are placed the "fours," and also the *étuve*, if the Metayer possesses one. The "fours" are simply like very large ordinary bread ovens; they are usually built in pairs, each one about 10 feet long, and 4 feet wide; they are heated by burning wood inside them; the ashes are cleared out and the *claires* placed inside.

The *étuves* are closets of variable dimensions with different appliances for holding the *claires*, they have a small furnace with pipes underneath the floor for heating. There seems to be a preference



for the "fours," though the *étuves* are simpler and more convenient in every way.

When the fresh fruit is put in the temperature should be about 100° F. When the Plums have been inside for about a couple of hours, they assume a peculiar puffy appearance; the *claires* are then withdrawn, the fruit turned by holding an empty *claire* upside down close over a full one, and then turning them both over. After cooling the *claires* are again put into the "four," this time at a temperature of 135°; again withdrawn, turned, cooled, and put in at a temperature of about 170°; and this operation is continued until the Plums have been dried. Some dry more rapidly than others, and they are picked out as they are ready. The more slowly the operation is performed, and the oftener the Plums are put into the "four," the better will be the result.

When they are ready the Plums are sorted out into various grades, according to the number (30, 35, 45, 50, 55 or more up to about 130) that it will take to make up the French pound, for curiously enough the old French measure is adhered to. They are put into sacks and carried to the markets. Here the merchants come and buy, paying prices varying according to the number of Plums required to weigh a pound; 30 to the pound would be worth about 120 francs the 100 pounds; 40 to the pound about 100 francs, and so on down to the very lowest grades, which are not worth more than 15 francs. The merchants convey the fruit to large, cool, airy warehouses, where it is thrown into bins; and women at long tables are employed sorting over again much more carefully than before. The various grades are then packed separately into casks and are sent to Bordeaux, where the finer qualities are packed carefully in bottles or boxes, the inferior are simply exported in bulk.

Round Agen and in the other districts another tree is cultivated, the *Prunier commun*. This is a round violet Plum grown on its own stock. The fruit is prepared in a similar manner to the *Prune d'ente*, but it is very inferior, and is only fit for stewing. Enormous quantities are consumed by the peasants in the north and east of France.

I think the deductions I have drawn from the observations and inquiries I have made may be briefly stated as follows:—

1, That we have no Plum at present cultivated in the Severn district that at all resembles the *Prune d'ente*.

2, That though I think we have plenty of suitable soil I think it most probable that we should never successfully cultivate the *Prune d'ente* on account of the lateness of our spring and the comparatively small amount of really hot sun that we usually enjoy.

3, That some of our Plums can be made to yield lower grades of the "Prunes" and *Pruneaux*, but with such produce only, a factory could hardly be maintained. The loss of weight in the process of drying even with the best *Prunes d'ente* amounts to two-thirds of the original weight; with our Plums it would probably be about three-quarters. In other words a pot of our Plums would probably yield about 25 lbs. of dried fruit.

If a factory were established, I should propose to adopt a class of kiln which I have in use for burning terra cotta at my brickworks. I should have a set of four of these kilns, each kept constantly at a regular temperature, but the heat in each one varying from that in the others. Such a set, in a suitable chamber and with the requisite heating arrangements, would probably cost about £200; not so much if placed in an existing building; and the daily output would amount to the produce of from thirty pots of fresh fruit, all of which would pass through all four kilns. There could not be more than about six weeks of work, and the gross output would, therefore, be about 250 pots of dried fruit during that time.

It will be seen that during the greater part of the year the factory would be idle unless development in other directions were adopted. I could indicate one such direction as to which I have obtained a considerable amount of information, and which appears to offer very great probabilities of success. It would make this report too lengthy were I to enter fully into the details of this scheme; and I will only mention that it is the manufacture of brandy from Plums, adding that:—

I. There appears to be an unlimited demand for brandy.

II. That Plum brandy appears to possess distinctive and valuable qualities.

III. That recent legislation in Germany, where most of the cheap brandy is made, has rendered its manufacture in England more advantageous.

IV. That such a manufacture would considerably extend the period during which the factory would be at work.

V. That the worst, soiled, and damaged fruit might be usefully employed.

Again, the manufacture of jam would enlarge the field of operations and extend the period of work; and not only of jam, but of fruit prepared in various ways.

I propose to try experiments in drying all the varieties of Plums grown in any quantity in the district, and can then form an idea of the quality of the product, and can ascertain the probable quantity available for such varieties as show fairly good results.

In using the word jam above I meant to include in the phrase the various products more or less included under the French term *confitures*, and in mentioning thirty pots as output from suggested "fours" I should say this is purely guess work, except that it would certainly be this amount, but it might be three or four times as much. I shall try the experiments as soon as any Plums are ripe with my kiln at the brickworks, and I can then form a reliable opinion.

(Signed) M. W. COLCHESTER-WEMYSS.

August, 1888.

In giving permission for the publication of his paper in the "Kew Bulletin" Mr. Colchester-Wemyss was good enough to send another paper which he prepared for a meeting of fruit growers at Gloucester, and in which he gave the following results of some experiments with English Plums:—

I determined on my return to make the best attempt I could with our Westbury Plums. Unfortunately it was a most unfavourable season (1888) for the experiment, for the fruit in England never ripened properly, and the continued absence of warm sunshine reduced to very small proportions the amount of saccharine, an ingredient most vitally necessary; so that the experiment was made under avowedly unfavourable auspices.

I have at my brickworks at Mitcheldean a special kiln for burning pottery and terra cotta. This kiln has some points of similarity with a French fruit *étuve*, only much better. It is fired with a special gas produced on the spot, the flame circulates in a hollow wall round the kiln, but never enters it. It can be cut off at any moment, and the temperature regulated at will. Of course, being made for terra cotta, its shape and form is not convenient for drying Plums; but it afforded ample evidence that kilns built on this principle, but specially modified, would answer admirably for fruit drying purposes. I tried several kinds of Plums, amongst others the Early Prolific, Blaisdon Red, Victoria, Black Apricot, and Black Diamond, but every Plum I tried as deficient in all the three characteristics of the *Prune d'ente*, toughness of skin, solidity of flesh, and abundance of saccharine. Some failed altogether, and even those which yielded a moderately fair result had to be treated with extraordinary care to avoid the bursting of the skin and the consequent escape of juice.

They had to be put many times into the kiln, and the finishing temperature had to be arrived at very gradually, and even then I unfortunately spoilt, from a too high temperature, several "claire"-fuls of Plums which I was preparing in an ordinary bread oven at Westbury. The Plum season was a short one this year, and unless picked quite green, so many rotted before they were really ripe, owing to the damp and rain, so that with the time and means at my disposal I was only able to produce a very limited number of Plums. Those giving the best results were the Blaisdon Red, the Black Diamond, and the Victoria.

\* \* \* \*

Though none of our existing Plums will yield the best French Plums, we can produce "Pruneaux," which are not without merit. Whether it would be a lucrative operation is not an easy question to answer. We have to bear in mind that it will require nearly 4 lbs. of our home varieties to make 1 lb. of "Pruneaux." In other words, assuming the value of raw fruit to be 1d. per pound, it would take four pennyworth of fruit to make a pound of "Pruneaux," and I think this would have to sell at 5d. per lb. to make the manufacture profitable.

A factory could not be started solely for the manufacture of "Pruneaux," because the busy time would only be so small a portion of the whole year that it could hardly be rendered remunerative; moreover, the raw fruit would bear but little travelling, and so could not well be brought from any great distance. It has to be quite ripe, and yet must not be at all bruised, and the skin must not be the least broken. A factory might encourage the erection and maintenance of ovens and kilns in different localities, and in fact the earlier stages of manufacture might be carried out in such localities themselves, and the process be subsequently completed at the factory. Such a plan would also have advantage of extending the annual period of life at the factory. It might also be possible to store the raw fruit in cool chambers at the factory and dry it at leisure, but I doubt this. A factory in fact to be successful must embrace other operations besides drying Plums.

#### THE MIDLAND COUNTIES CARNATION AND PICOTEE SOCIETY, BIRMINGHAM.—AUGUST 8TH.

THE first meeting of this new Society was held in the Botanic Gardens, and Mr. Latham had made excellent arrangements for the display in the great conservatory. There was a large gathering of growers, including Mr. Dodwell, who came from Oxford purposely to assist in establishing the new Society, and whose presence was affectionately welcomed. Mr. Lord and Mr. Henwood also came, and Mr. Samuel Barlow was a welcome visitor, and many others whose names do not appear as exhibitors. Slough was represented by genial John Ball, and Mrs. Douglas represented her famous husband, and I think I may safely say represented him admirably in setting up his blooms. Altogether it was a day of most pleasurable excitement, and all went off well, and Mr. Robert Sydenham and the Committee worked to insure success, and the general verdict was most favourable. There was a very large attendance, and note-taking was general; the luncheon tent was almost more than filled, and Mr. Barlow presided, and all went off well.

In the class for twelve Carnations, seven prizes, Messrs. Thomson, Sparkhill Nurseries, were first with clean fresh blooms of C. H. Herbert, James Merryweather, Thalia, T. B. Thomson, a fine new flower of good petal, and clear white ground colour; Prince George of Wales, good; Robert Morris, Sarah Payne, P.F.; also Sarah Payne, P.P.B.; Alismond, very bright in colour; George Melville, Lily Cannell, fine; and R. Houlgrave, very fine. Second, Mr. Charles Turner, Slough, with Sarah Payne, P.P.B.; Lady Mary Curric, James Taylor, George (Beardsley), large and good; Thalia, very fine; Prince George of Wales, H. K. Mayer, Charles Henwood, Mrs. Barlow, Charles Turner, John Simonite, and Robert Houlgrave, very fine. Third, Mr. M. Rowan, Clapham, with fine



blooms of George Melville, Fred, Rifleman, Gordon Lewis, and Robert Houlgrave in this stand. Fourth, Mr. Dodwell; fifth, Mr. Lakin; sixth, Mr. Makepeace; seventh, Mr. J. Douglas.

Twelve Picotees.—First, Mr. E. S. Dodwell, Oxford, with Norman Carr, large and fine; Favourite, Mrs. Coldridge, of very fine form and quality; Arnot Lyle, Little Phil, Imogene, Mrs. Payne, very fine; Mrs. Sharp, Nellie, fine; Royal Visit, and John Smith. Second, Mr. M. Rowan, with Mrs. Payne, fine; Mrs. Sharp, very bright and fine; Little Phil, Brunette, Alliance, fine in form; Mrs. Gorton, Clara Penson, Thomas William, Favourite, Mary, Amy Robsart, and Lady Louisa. Third, Mr. Charles Turner, Favourite, Mrs. Harford, Mrs. Payne, and Baroness Burdett Coutts, being fine. Fourth, Messrs. Thomson & Co., Sparkhill Nurseries; and in this stand were fine blooms of Mrs. Sharp, Lady Louisa, and Isabel Lakin. Fifth, Mr. J. Lakin. Sixth, Mr. J. Walker. Seventh, Mr. G. Chaundy.

In the class for six Carnations.—First, Mr. Robert Sydenham, Birmingham, with Thalia, Sarah Payne, J. Lakin, and three others. Second, Mr. Thomas Anstiss, Brill, his best blooms being George Melville, Sybil, and Robert Houlgrave. Third, Mr. William Ward, Leicester, who had good blooms of Robert Houlgrave and Sarah Payne.

For six Picotees.—First, Mr. Robert Sydenham, with good blooms of Norman Carr, Zerlina, Thomas William, Mrs. Ricards, Ethel, and Brunette. Second, Mr. A. W. Jones, Birmingham, his finest blooms being Mrs. Sharp, Thomas William, Mary, and Lady Louisa. Third, Mr. J. P. Sharp, Birmingham, in whose stand was a fine promising seedling, light purple edge. Fourth, Mr. T. Anstiss.

Twelve Yellow Ground or Fancy Carnation or Picotees.—First, Mr. Charles Turner, with a grand stand of blooms—viz., Romulus, fine; Mrs. Walford, Seedling, Edith, Mrs. Wynne, an improvement on Janira; Apollo, Victory, very fine; Almira, Lord Rendlesham, Madame Van Houtte, very fine; Countess of Jersey, a fine yellow-ground Picotee; Distinction, and Mrs. Henwood. Second, Mr. E. S. Dodwell, with Tournament, Almira, Terra Cotta, Stadthath Bain, and Seedlings 919, 184, 167, and others. Third, Mr. J. Douglas; and in this stand were fine blooms of Lily Henwood, Mrs. Robert Sydenham, and a very fine seedling yellow Picotee. Fourth, Mr. G. Chaundy.

Twelve Self Carnations.—First, Mr. E. S. Dodwell, with a very fine Germania, Queen of the West, and ten seedlings. Second, Mr. Charles Turner, with Catherine, The Governor, Mary Morris, Duchess of Fife, Golden Fleece, Cremorne, Rose Unique, very fine; Ruby, and Rose Wynne, both fine, the latter a beautiful deep scarlet approaching maroon; Germania, and two seedlings. Third, Mr. Rowan; fourth, Mr. G. Chaundy; fifth, Mr. Anstiss; sixth, Mr. Douglas.

In the class for six Fancy Carnations, Messrs. Thomson & Co. were first with a fine bloom of Blushing Bride, A. W. Jones, a fine yellow ground bizarre Picotee; Schleiben, A. Alegatière, Maud, and Lady Edwards. Second, Mr. M. Rowan with Janira, seedling, Terra Cotta, Dodwell's 614, 586, and 192. Third, Mr. J. Anstiss; fourth, Mr. J. Wynne Ffoulkes; fifth, Mr. J. Walker; sixth, Mr. S. Barlow.

Other classes were well filled, and a goodly number of flowers were staged in the classes for single blooms. Some of the finest were Mr. Sydenham's blooms of Annie Lord, Favourite, Mrs. Gorton, Norman Carr, heavy red edge with superb petal and substance; Polly Brasil, heavy purple edge; and Mr. C. Turner's Seedling No. 9, medium red edge, and Mrs. Coldridge, heavy rose edged, first in the heavy edged class; and also Premier, fine petal and substance.

Amongst the yellow ground varieties in the single classes, all very fine, were Countess of Jersey (Turner) deep yellow ground with carmine marking; Mrs. Henwood, light yellow with rosy carmine markings; and Lily Henwood, creamy buff with rosy carmine markings, a grand bright flower. Amongst the single blooms of selfs Germania was very fine; also Royalty, a very charming bright ruby-red self of exquisite form and good substance. No. 4 self of Mr. Hedderley's and Rose Unique (Turner) a very beautiful flower, soft shaded rose.

An important addition to the schedule were the classes for Border Carnations, and in that for twelve varieties, five blooms of each, Mr. John Walker, Thame, was first; Mr. Joseph Lakin, Oxford, second; Mr. G. Chaundy, Oxford, third. The midland and northern growers not being yet in bloom.

Prizes were offered for the best bouquets of Carnations and Picotees, and foliage. Messrs. Thomson & Co. were first with a superb arrangement of scarlet Carnations and their Blushing Bride self Carnation, and there were four other prizes awarded. There was also a goodly competition in the class for sprays of Carnations or Picotee blooms. The class for twelve plants in pots not exceeding 6 inches in diameter brought out only one exhibit, Messrs. Thomson's, the lateness of the season telling against further exhibits, and it taxed Mr. Herbert to get this lot into moderate bloom.

The premier blooms were as follows:—Bizarre Carnation, Robert Houlgrave, S.B., exhibited by Messrs. Thomson & Co.; Flake Carnation, Thalia, R.F., by Mr. Charles Turner; heavy-edge Picotee, Mrs. Coldridge, by Mr. Dodwell; light-edge Picotee, Baroness Burdett Coutts, P.E., by Mr. Charles Turner; yellow-ground Picotee, Countess of Jersey, by Mr. Charles Turner; Self Carnation, Germania, by Mr. Dodwell.

A certificate was awarded to Mr. J. Douglas, Ilford, for Fancy Picotees Lily Henwood and Mrs. Robert Sydenham. Certificates were also given to Mr. Hy. Eckford, Wem, Salop, for the following new Sweet Peas:—H. M. Stanley, Ovid, Lady Beaconsfield, Dorothy Tennant, Countess of Radnor, Imperial Blue, Delight, and Premier.

Non-competing exhibits were of considerable excellence. Messrs. Thomson & Co. contributing a handsome group of plants; A. H. Griffiths, Esq., a box of superb Roses; Mr. William Sydenham, Tamworth, Fancy Pansies; Mr. Wm. Campbell, florist, Blantyre, a fine display of Fancy Pansies, including seedlings, Wm. Adam, Dr. Gilchrist, and Duchess of Fife, all these very good; Messrs. Hewitt & Co., Solihull, for a fine plant of the lovely new Caladium Raymond Lemoine, also Begonia blooms, cut herbaceous plants, and an interesting collection of foliage of rare ornamental trees and shrubs. Mr. B. K. Davis, nurseryman, Yeovil, sent a fine lot of blooms of his double and single Begonias, nicely set up; Mr. James Forbes, Hawick, a good display of Violas, Pansies, and cut herbaceous plants; and Messrs. Dicksons, Chester, cut herbaceous plants and border Carnations.

### CODONOPSIS CLEMATIDEA.

THE genus Codonopsis is included in the Campanula family, and several of its members are very suggestive of the medium sized Bell-



FIG. 22.—CODONOPSIS CLEMATIDEA.

flowers of erect habit. The climbing annual Codonopsis, *C. rotundifolia*, is perhaps the best known together with its beautiful variety *grandiflora*, the yellowish flowers being veined with dark purple. *C. clematidea* is not too frequently seen, however, although it is an attractive plant of considerable merit as a hardy perennial. It is a native of elevated regions in Asia, and produces its neat bell-shaped pale blue flowers at the points of the slender stems, which rise to the height of 2 or 3 feet. The flowers have a charming appearance when cut and arranged with other flowers or foliage in vases. It has been well shown in London by Messrs. Paul & Son of Cheshunt.



## THE OXFORD CARNATION AND PICOTEE SHOW.

THE annual gathering of florists on this occasion was a large one, and Mr. Dodwell's health has fortunately enabled him to take his position as host and welcome all his friends, as he did most cordially. Everybody knows that 1891 has given a very sunless summer in the midland and northern counties, and that the season is a very late one, and Carnation and Picotee growers in those districts have felt it keenly. Mr. Lord, Mr. Ben Simonite, Mr. T. Bower, Mr. S. Barlow, and other well known Lancashire and Yorkshire growers could not send any flowers, as their plants were not in bloom; and the Birmingham growers could take but very few blooms for the same reason. Still, there was a very fine display, and the southern growers had the best of it; a great many very fine flowers were staged, Mr. Dodwell's gardener, Mr. Read, showing well, the blooms being so fine throughout; Mr. M. Rowan of Clapham was a strong opponent, as our report will show.

In the class for twelve Carnations, dissimilar, Mr. Read and Mr. Rowan were placed equal first; the former with William Bacon, Sybil, Dr. Symonds, Squire Potts, Gordon Lewis, Master Fred, George Mitchell, Mrs. May, a lovely rose flake; Thalia, Squire Whitbourn, Mrs. Bacon, and Seedling 746. Mr. Rowan's stand consisted of George Melville, Matador, Thalia, Robert Houlgrave, Alfred J. D. Hextall, Sportsman, Sarah Payne, Jessica, Gordon Lewis, Mars, and Rifleman. Third, Mr. Charles Phillips, a fine Prince George of Wales in his stand. Fourth, Mr. Joseph Lakin, fine blooms of Alismond S.F. and Duchess of Fife, a fine pale rose flake, in this stand. Fifth, Mr. Robert Sydenham; Sybil, and Lovely Mary, a very fine rose flake, were conspicuous in this stand. Sixth, Mr. George Chaundy, who had a promising seedling S.F. in his stand. Sixth, Mr. John Walker. In the class for six dissimilar Carnations Mr. T. G. Keen was first with William Skirving, Matador, James Douglas, Rifleman, Robert Houlgrave, and Lovely Mary. Second, Mr. T. Nutt with James Douglas, a fine Sybil, Rifleman, George Melville, William Skirving, and Alismond. Third, Mr. W. T. Walker, who had fine blooms of H. J. May and James Douglas. Fourth, Messrs. Thomsons; fine blooms of their new bizarre C. H. Herbert, and of Prince George of Wales in this stand. Fifth, Mr. Thomas Anstiss, including fine blooms of James Douglas and Sybil. Sixth, Mr. W. Bacon. Seventh, Mr. F. Hooper, who had a fine bloom of Joseph Lakin in his stand.

In the classes for Picotees many of the flowers were very fine and refined. For twelve blooms Mr. Read again scored first with a grand lot of blooms—viz., Norman Carr (a superb heavy scarlet edge with grand petal), Lyddington's Favourite, Gertrude, a grand flower of Amelia, Chaundy's 271, Novelty (a charming flower with a distinct shade of purple marking, unlike any other), Imogen, Mrs. Payne, Little Phil, a very fine bloom of John Smith, Mrs. Coldridge (a beautiful new variety), and a very fine Mrs. Sharp. Second, Mr. M. Rowan with a very fine stand of Dr. Epps, a very fine Favourite, Little Phil, Amy Robsart, Rose Mary (a beautiful flower), Muriel, Thomas William (very fine), Mrs. Sharp, Edith D'Ombra, Brunette, and another. Third, Mr. J. Lakin, a very promising seedling light rose edge, and fine blooms of Mrs. Niven and Juliette being noteworthy in this stand. Fourth, Mr. John Walker. Fifth, Mr. George Chaundy. Sixth, Mr. Chas. Phillips. Seventh, Mr. Thomas Anstiss, in whose stand was a distinct faint light-edged variety named Emma Rachel.

Six Picotees.—First, Messrs. Thomson & Co., Birmingham, with Gertrude, Campanini, Favourite, Thomas William, Mrs. Sharp, and Brunette. Second, Mr. W. Bacon with a fine Amelia, Lady Holmesdale, Mrs. Payne, Clara Penson, John Smith, and Mrs. Sharp. Third, Mr. Walker; fourth, Mr. Keen; fifth, Mr. Hooper, in whose stand was a fine and promising light purple edge seedling very like Mary, but larger; sixth, Mr. F. Nutt; seventh, Mr. Ribbeck; eighth, Mr. John Payne.

The twelve selfs, Fancies, or yellow ground classes were well filled, and some grand blooms were staged, these classes becoming more and more popular, and so many fine varieties have recently been added. Mr. Rowan achieved a triumph here in being first with a very fine stand of blooms—viz., Purple Emperor, Germania, Lady Agnes, shaded pale pink self and very fine; The Maestro, a rich dark crimson self; Gladys, Janira, Joe Willett, a very bright scarlet self; Emmie, a faint shade of salmon pink, distinct and fine; Lady Vernon Harcourt, shaded salmon scarlet, and seedlings. Mr. Read was a close second with fine blooms of Seedling 859, Gentle Jacky, blush pink, very fine; Sir Toby Bitch, rich scarlet with crimson flakes; Vandyke, very distinct and handsome, bright carmine with slate coloured stripes; Chaundy's Seedling 259, rich crimson scarlet, very fine, and some of Mr. Dodwell's seedlings. Third, Mr. George Chaundy, chiefly with seedlings, one of them an improvement on Mrs. Reynolds Hole; fourth, Mr. Walker; fifth, Mr. Anstiss; sixth, Mr. Phillips; seventh, Mr. Vesey.

In the class for six Selfs, Fancies or Yellow Grounds.—First, Mr. Nutt, with Germania (also the premier self) Gladys, Ruby May, Annie Lakin, very fine; Benary's Theodore, very distinct pale mauve, and very fine; and Joe Willett. Second, Mr. Walker, with Mrs. Reynolds Hole, Mrs. Fred, Seedling, Germania, Brilliant, and Terra Cotta. Third, Messrs. Thomson & Co., with Blushing Bride, and Mrs. Thomson, a beautiful bright salmon and carmine flower, both not yet sent out, and a very fine bloom of Mrs. Fred and others. Fourth, Mr. Ribbeck. Fifth, Mr. J. F. King, who had a fine bloom of Terra Cotta. Sixth, Mr. A. L. Brown. Seventh, Mr. Bacon. Eighth, Mr. Hooper. Ninth, Mr. R. Ellis.

In the class for the Kilmurry section of yellow ground Picotees.—First, Mr. Read, with superb blooms of Tournament (the premier yellow

ground in the Exhibition), Alfred Gray, Nancy, Gyle's No. 4, Rachel and Nora. Second, Mr. George Chaundy, a bloom of Rachel, very fine, and a distinct variety in this stand. Third, Mr. F. Nutt, with a grand Tournament, and others. Fourth, Mr. W. Bacon. Fifth, Mr. Thomas Anstiss.

In the class for six yellow ground flowers.—First, Mr. W. Read, with Seedling 167, very fine, also Seedling 1859, fine; a grand bloom of Tournament, Alfred Gray, a very fine variety of the Kilmurrys; Stadthall Bail, distinct and bright, and Patricia. Second, Mr. Chaundy, with Dodwell's 164, Mrs. Reynolds Hole, Dodwell's 154, a bright and lovely variety; the Seedling improved Mrs. Reynolds Hole, and Germania. Third, Mr. T. J. Keen. Fourth, Mr. F. Nutt. Fifth, Mr. Hooper. Sixth, Mr. Phillips. Seventh, Mr. Anstiss. Eighth, Mr. A. Spurling. Ninth, Mr. R. Ellis.

Single classes.—Heavy edged Picotees.—First, Mr. J. F. Sharp with Mrs. Sharp. Second and fourth, Mr. Read, with Little Phil, a beautiful heavy red edge flower. Third, Messrs. Thomson & Co., with Gertrude. Fifth, Messrs. Thomson & Co., with Constance Heron. Sixth, Mr. Read, with Mrs. Sharp, and seventh with Little Phil.

Medium edged Picotees.—First, Mr. Phillips, with Zerlina, and fifth with Muriel. Second, Messrs. Thomson & Co., with Alice. Third and fifth, Mr. Rowan, with Muriel. Fourth, Mr. A. R. Jones, with Miss Horner. Seventh, Mr. Hooper, with Mrs. Rudd.

Light edged Picotee.—First, Messrs. Thomson & Co., with Clara Penson. Second, Messrs. Thomson, with Juliet, and fourth with Mrs. Herbert. Third, Mr. Lakin, with Favourite. Fifth, Mr. Anstiss; sixth, Mr. Hooper; seventh, Messrs. Thomson, each with Favourite.

Carnations, Scarlet Bizarres.—First and second, Mr. Rowan, with Robert Houlgrave, and third with Mars. Third, Mr. Wynne Ffoulkes, with Robert Houlgrave. Fifth, Mr. Lakin, with Mars.

Crimson Bizarres.—First, Mr. Rowan, with J. D. Hextall, and third and fourth with Edward Rowan. Second and fifth, Mr. Read, with Seedlings.

Pink and Purple Bizarres.—First and second, Mr. W. Nutt, with William Skirving. Third, Mr. Read; fourth, Mr. Wynne Ffoulkes; fifth, Messrs. Thomson, with Sarah Payne.

Scarlet Flakes.—First and second, Mr. Rowan, with Sportsman. Third, Mr. Read, with Dodwell's 727. Fourth, Mr. Chaundy; and fifth, Mr. Lakin, with Sportsman.

Rose Flakes.—First, Mr. Read, with a very fine Mrs. May, and third with Seedling 833. Second, Mr. Lakin; fourth and fifth, Mr. Rowan, with Thalia and Jessica.

Purple Flake.—First and fifth, Mr. Read, with Mayor of Nottingham. Second and fourth, Mr. Lakin, with Sarah Payne and James Douglas; and third, Mr. Keen, with James Douglas.

Selfs.—First, Mr. Anstiss, with a very fine bloom of Mrs. Fred. Second, Mr. Read, with Chaundy's 155, a very fine rose purple. Third, Mr. Lakin, with Germania; and fourth with Nellie Hill, a pure white of fine form. Fifth, Mr. Chaundy, with Queen of the West, a lovely pale rose self.

Yellow Grounds.—First, Mr. Phillips, with Douglas's Almira. Second, Mr. Read, with Benary's Madame Van Houtte, distinct and fine. Third and fifth, Mr. Hooper, with seedlings; and fourth, with Agnes Chambers.

Fancy Picotees.—First, second, and third, Mr. Read, with a very fine Maud, Stadthall Bail, and Dodwell's 857 respectively. Fourth and fifth, Mr. Hooper, with a seedling in the style of Alfred Gray and bright.

The premier blooms in the Exhibition were: Carnation, George Melville, P.F., in Mr. Rowan's stand of twelve. Picotee, Mrs. Payne, medium rose edge, in Mr. Read's stand of twelve. Self Carnation, Germania, in Mr. Nutt's stand of six. Fancy, Tournament, in Mr. Read's stand of six.

To the following varieties certificates were awarded:—To Martin R. Smith, Esq., for Niphotos, white; Lady Gwendoline, not quite so bright as Mrs. Louisa Jamieson, bright scarlet; Abigail, warm rose; Royal George, rosy purple; and Athane, light purple.

To Mr. Charles Turner, Slough, for Carnations Dr. Hogg, bright scarlet bizarre; Charles Turner, a grand scarlet flake; Charles Henwood, a fine purple flake; and Lady Walker, a yellow self, very closely resembling Germania. Also to Mr. Turner for the following Picotees—viz., Mrs. Harford, medium rose edge, in the style of Mrs. Payne, and with a superb petal; Madeleine, heavy rose edge and a very fine flower; Lady Emily Van de Weyer, a very light purple rose edge, with beautiful petal and form; Lord Rendlesham, deep salmon ground, suffused with bright shaded maroon, a very fine flower; Apollo, creamy yellow ground with faint carmine markings, a fine flower; Sunset, pale salmon with lilac-tinted red markings, a fine flower; Romulus, creamy yellow ground with rich pale carmine markings, extra fine; and Mrs. Henwood, pale yellow ground with pale scarlet margin, fine. Mr. Turner also exhibited a superb self named Ruby; Rose Unique, soft rosy pink, fine form; and a pale P. and P.B. Carnation Harmony; and Lady Mary Currie, a fine rose flake flower.

In addition to this fine display of flowers there was Mr. Dodwell's grand collection in pots in flower, numbering several thousand blooms, and all in the most satisfactory state of cultivation; and what a wealth of beauty is to be seen in the very numerous and lovely varieties of selfs and Fancies he has raised, beautiful decorative flowers, some of which should be in every garden. Shades of colouring appear to be unlimited, and form is now a common thing in comparison with the ragged edges of a great many of the border decorative sorts. A



stronger constitution is also to be found in the many varieties raised by Mr. Dodwell and other growers, so that as border flowers they are the more acceptable.

## HORTICULTURAL SHOWS.

### LEICESTER.

THE annual Exhibition of the Leicester Horticultural Society took place on August 4th, and was a most decided success both as regards the exhibits and also in the attendance of visitors. The weather was somewhat threatening all day, but fortunately no rain came to spoil the pleasure of the public, and about 20,000 people visited the Show and grounds during the day. Leicester Show is always well patronised by the public, partly owing no doubt to the beautiful park and gardens in which it is held. The bedding-out is very extensive, and looks remarkably well. Two examples of carpet bedding deserve especial mention. They are worked from designs suggested by an old Roman pavement discovered in the town. The colours were subdued and well chosen, and the plants had filled up well considering how far north they are situated; in fact, it would be difficult to find two better beds. It was gratifying to hear the number of entries this year amounted to 1125, exceeding those of 1890 by nearly 300. This says a great deal for the good management of the able Secretary, Mr. Burn, who is also curator of the park and grounds. A large Show like this is a severe tax on the administrative ability of any person who undertakes it, but everything passed off smoothly and with credit to all concerned. We were glad to hear Mr. Burn's charge is likely to be greatly extended in the future.

The show of fruit was remarkably good, the competition in some classes being keen. For a collection of eight dishes, distinct, the first prize was awarded to Mr. Edmonds, gardener to the Duke of St. Albans, Bestwood, who showed Madresfield Grapes fine in berry and colour, Black Hamburgh of good colour, Muscat of Alexandria good in bunch and berry but scarcely ripe, a good Queen Pine, very fine Elruge Nectarines, Grosse Mignonne Peaches extra fine, Melon and Figs. Second, Mr. Goodacre, gardener to the Earl of Harrington, Elvaston, with similar dishes but not so fresh and clean in appearance, although not many points behind. Third, Mr. J. Read, gardener to the Earl of Carnarvon. For four dishes, distinct, Mr. Alex. McVinish, gardener to N. Curzon, Esq., Lockington Hall, Derby, was first, showing fine Hamburgh Grapes; the same exhibitor also took first for Hamburgh Grapes and first for Muscat of Alexandria. Two bunches of Hamburgh Grapes were shown marked "Not for Competition," and deserve especial mention for their fine berries and large bunches. Some good Peaches were staged, Mr. Divers of Ketton took the first prize, and also for Nectarines. Strawberries were good, Mr. Edmonds being first with Duke of Edinburgh. Mr. Elphinstone, gardener to the Earl of Aylesford, second with fine fruits of Dr. Hogg but too green for exhibition. For Figs, Mr. Divers was first and Mr. Edmonds second.

Currants, Apples, and Gooseberries made a good show and were very fine. A glass case containing twenty-five varieties of Gooseberries not for competition deserves especial mention. Some of the best were Long Barney, Thatcher, Princess Royal, Antagonist, Leveller, Careless. A stand of ornamental pottery exhibited in this tent by Mr. Edwards of Sherwood, Nottingham, was awarded a certificate of merit, and was especially noticeable, being made in rustie ware, coloured green, black and gold, and filled with Ferns. Mr. Smout of Hastings had a collection of coloured seaweeds, and Mr. Forbes of Hawick exhibited some stands containing eight dozen Pansies, bedding Violas, and cut flowers of Begonias, which were awarded a special prize, also a quantity of herbaceous flowers.

Collections of vegetables were a strong competition and included fine specimens. The soil around Leicester evidently suits vegetables very well indeed. The first prize for a collection went to Messrs. Hickling of Loughborough, whose Potatoes, Tomatoes, Peas, Tripoli Onions, and Carrots were very good. Second, Marquis de Salicto, who showed fine Potatoes, Peas and Turnips. Third, Mr. F. Faint, Hertford, a very clean lot. For six dishes Potatoes there were ten entries, and all the exhibits were good. First, Mr. W. Biddles, Loughborough. Second, Mr. J. Cox, Loughborough, with larger tubers but not so good. Peas made a great show, twenty-two dishes being staged, the majority very fine. The same may be said of the Carrots and Onions, both of which appeared in strong force.

The specimen plants exhibited a marked improvement on former years; the groups also made a capital show, Mr. J. Smith, gardener to S. Bennett, Esq., being first with clean specimens. *Areca lutescens* occupied the centre, surrounded with *Caladiums*, *Acalyphas*, *Marantas*, *Francoa*, *Clerodendron fallax*, variegated Grass, &c. This was well filled up, and yet light and pleasing. Second, Mr. G. Berry, gardener to H. Snow, Esq., a good lot, but much heavier in appearance.

Messrs. Williams of Holloway showed a fine group of plants not for competition, comprising *Dracenas*, *Palms*, *Marantas*, *Crotons*, *Sarracénias*, &c., of good useful size and clean healthy grown plants that made an important feature in the Show.

Roses were a show in themselves. For thirty-six, Messrs. Harkness of Bedale were easily first. They had Alfred Colomb, Comtesse d'Oxford, A. K. Williams, Pride of Waltham, Victor Hugo, Prince Arthur very fine. Second, Messrs. Perkins. For twenty-four the prizes went in the same order. For twelve of one kind Messrs. Harkness showed a beautiful box of Horace Vernet, the second prize going to Messrs. Perkins for Marie Baumann. A collection of *Pelargoniums* shown by Messrs. Pearson of Chilwell, Nottingham, were remarkably good, some of the best being Constance, pink; Mrs. Norman, salmon; Chas. Mason, very

bright scarlet; and seedlings No. 24, 1889; 20, 1890; and 22, 1889. Carnations were well represented, the chief prizes going to Mr. C. Turner of Slough, who also showed some new kinds not for competition, including *Romulus*, Lord Rendlesham, Mr. Henwood, Ruby, and Harmony. Wreaths and bouquets were grand, Messrs. Perkins taking all the first prizes as usual, their exhibits being far before all the others. In the cottagers' tent some good exhibits were staged, especially in vegetables, thirty-three plates of kidney Potatoes being shown, and several other classes were extremely well represented.

### HURSTPIERPOINT.

THIS Society was highly favoured with a beautiful day on the occasion of their fifth annual Show, held at the Chinese Gardens on Wednesday, the 5th inst. The entries this year show a steady increase on former efforts, and the result was a creditable collection of plants, flowers, fruits, and vegetables staged by the three classes of exhibitors. The gardeners' classes, which will be of most interest to readers of the Journal, are open to an eight-mile radius, and in most cases were well filled. The premier place for a miscellaneous group of plants was taken by Mr. M. Burehell, gardener to S. Hannington, Esq., Hurst; Mr. F. Faire, gardener to R. Clowes, Esq., Clayton, Wickham, being second with a pretty light arrangement, in which *Liliums* was the main feature, and though a little deficient in some respects, it seemed to "take" the popular eye more than first-named. It is much regretted that there is a slight falling off in this class, but it was in a great measure made up for in the numerous entries for six plants flowering or foliage. In this class Mr. A. Bish, gardener to Miss Fitzhaugh, was first, followed by Mr. G. F. Wickham, gardener to J. Humphreys, Esq., Rymer, and Mr. A. Scutt, gardener to Mrs. Jenkins, Burgess Hill. For a group of Ferns, G. F. Wickham was first, and P. Healey, gardener to S. Wilson, Esq., Kingsland, second, both showing neat fresh groups. For the best specimen plant Mr. Wickham was again placed first for a well-grown *Bougainvillea*, Mr. A. Bish being second with a splendid *Adiantum farleyense* 4 feet across, and Mr. Burchell was third with the same Fern nearly as large. Mr. Bish was first for *Begonias*, *Fuchsias*, and *Gloxinias* the latter being very fine indeed.

Cut flowers were well represented, notwithstanding the heavy rains experienced. Mr. Wickham had the best amongst several bouquets. There were a few good boxes of Roses, J. Peskett having the best. Mr. W. Manton, gardener to Mrs. Clifton Borrer, Boling, was strong in hardy herbaceous flowers, and Mr. G. Healey had a good stand of Dahlias.

In some of the fruit classes the entries were not so numerous as usual, but were of very good quality. The Apples placed upon the tables show that there is a fair crop in this district, and the same may be said of small fruits. The following are the names of the most successful exhibitors:—Messrs. Wickham, Collins, Manton, Godby, Scutt, Lingby, and Chandler. The ladies, as is usual here, made an interesting display of baskets of cut flowers, Mrs. Shorood taking the coveted blue ribbon, followed by Miss Fanny Wood and Mrs. A. Scutt. Mr. Manton was fortunate in carrying off first prizes given by Messrs. Balchin for hardy herbaceous flowers, and the Messrs. Sutton & Sons for a collection of vegetables. Messrs. Balchin, with their usual desire to promote local horticulture, staged a fine group of decorative plants, and also some fine cut Roses. The cottagers made a very good show of vegetables and small fruits.

This is one of the best conducted local Shows in Mid-Sussex, and their Show is only part of what the Society is doing for the cause. In addition to the many special prizes not here mentioned there are also prizes given for the best cultivated garden, for the best allotments, &c., the labours attending which are not seen nor much thought of on the Show day, but the good it does must not be lost sight of. Mr. Wood, their genial Chairman and Treasurer, succeeds in getting substantial subscriptions, and in having a balance on the right side, and his efforts are ably seconded by Mr. S. Bucking, two gentlemen at least at Hurst, not so much engrossed in agriculture as to have no time to think of the gardens and of gardeners. Mr. Bunny and Mr. Richardson ably superintended the arrangements of the Show, and Mr. A. Anseombe efficiently discharged the duties of Secretary.



### HARDY FRUIT GARDEN.

APPLES AND PEARS.—All summer pruning must now be completed at once, so as to give the fruit all the light and air possible, and to develop the fruit buds for next year. Be careful to leave four or five good leaves at the base of each shoot that is shortened, and all the points of the main branches must be left entire if any extension in the size of the tree is considered advisable. Trees that are habitually unfruitful should not be pruned in any way at present unless a few weak shoots are taken out to allow the others more light and air. As a full pruning now will only start more shoots into growth, all such trees should be left until the wood is well matured, and then be operated upon at the roots. While pruning see that all ties and fastenings are



secure, and add extra supports where there are heavy crops, so that all may be safe before the fruit becomes too heavy and breaks the branches.

**APRICOTS, NECTARINES, AND PEACHES.**—Fruits that are ripening must be carefully attended to, gathering them before they are likely to fall, and laying them in a dry and warm place to finish. See that no wall-nails are in the way of the fruit now it is swelling fast, and look out for woodlice and earwigs, which often do much damage by eating small holes in the fruit next to the wall. A piece of cotton wool placed behind the fruit is the best protector, and all the insects should be trapped by turning flower pots upside down and placing a little dry moss in the bottom for them to hide in. A can partially filled with water and a little petroleum swimming on the surface soon makes short work of such things if they are dropped into it. Keep the fruit well exposed to the light and sun by removing all young shoots as they appear, and assist the trees that have heavy crops by a thorough soaking of weak liquid manure at the roots occasionally. If red spider appears before the fruit commences ripening lose no time in checking its advance by repeated syringings of cold water after the heat of the day is over. The foliage must be kept perfectly clean and healthy if a good crop of fruit is required next season.

**STRAWBERRY BEDS.**—As soon as those layers are removed which are required for planting, the beds should be cleaned by hoeing up all weeds and young plants, trimming off the runners, and raking all away together with the mulching materials. Some persons still make a practice of cutting the old leaves off the plants as soon as fruiting is over, and in some instances no doubt good results are obtained under this system; at the same time it is just possible better results would have been obtained if the best of the foliage had been preserved. We find an old sickle or some similar instrument useful for cleaning Strawberry beds. By holding it almost perpendicular and working it round each plant the runners and oldest leaves are detached at the same time, and the best of the foliage in the centre of the plant is left entire. After this the beds must be hoed through about once every ten days to keep weeds in check and prevent the ground from becoming too much dried. In warm and dry localities defer cleaning the beds for another fortnight, merely pulling out the largest weeds, or another mulching may be applied in the place of that which is removed.

**THE FRUIT ROOM.**—This must now have a thorough cleansing and be prepared for the early fruits. A clean, sweet room is absolutely necessary in order to have good flavoured fruit, and all strong-smelling substances must be rigidly excluded. Apples, Pears, &c., soon become tainted if any strong-smelling substance is near them in a room, and are then spoiled. The fruit room should therefore be reserved for storing fruit only, and not made a receptacle for all kinds of odd things, as is often done; such things as petroleum, paint, tar, herbs of various kinds, Onions, Shallots, Garlic, often cause much mischief which cannot afterwards be rectified. It is important also that all windows be left open after the room is cleansed until fruit storing is commenced in order to keep the air sweet and pure. See that all holes are stopped where mice and rats are likely to enter. Broken glass finished off with Portland cement is the best substance for this purpose. Never store fruit on straw or paper, as these soon impart a musty flavour. Bare shelves are far better, and they should not be made of deal, but of some English wood, such as elm or ash, which has no odour. See that all ventilators are in good order and everything right before fruit gathering commences.

#### FRUIT FORCING.

**PEACHES AND NECTARINES.**—*Earliest Forced Houses.*—Although the foliage of trees started in December is now beginning to fall they must not lack moisture at the roots, affording water or liquid manure to weakly trees as necessary to maintain the soil in a moist but not saturated condition; as if too much water is given when the trees are at rest and they are not exposed excessive moisture and the warm weather are apt to cause premature growth, which must be guarded against. It does not much matter about rain, as with it the air is comparatively cool; indeed, rain has a beneficial and invigorating tendency. As a safeguard against starting the bloom buds, allow such laterals as are green and unripe to remain as an outlet for any excess of aliment, and they are equally effective in maintaining activity at the roots. Early forced trees do not, as a rule, make strong growth, having generally a larger proportion of single fruit buds than trees grown under more favourable circumstances, triple buds not being nearly so frequent; hence in pruning it is not desirable to cut back next year's bearing wood unless they are of great length. Very little pruning will be needed provided disbudding has been attended to, no more wood being trained in than is required to replace the bearing shoots of the current year, and to renew worn out growths, as well as provide for the extension of the trees. Trees that have long been subjected to early forcing are seldom vigorous, but not unfrequently become so enfeebled as to need the removal of the weak growths, which, though plentifully furnished with fruit buds, are undesirable from their affording much smaller fruit than is yielded by the moderately vigorous and well ripened growths. Some trees, however, make too vigorous or long-jointed wood, pushing laterals difficult to restrain, if they do not frustrate the formation of fruit buds and interfere with an equal distribution of the sap. Any trees which grow too vigorously must be lifted, whilst those which show symptoms of weakness may have the old soil carefully removed from amongst the roots, supplying fresh turfy loam with about one-fortieth part of bonemeal and a twentieth of wood ashes intermixed. Give a good watering both to the lifted trees and to those that have had the soil renewed about the roots. These operations require to be

performed as soon as the leaves are mature and before they fall from the trees.

*Succession Houses.*—Cut out the shoots that have borne fruit unless required for extension, and all the shoots where the growths are crowded should be thinned. This will allow the foliage to be more readily cleansed by syringing, repeating that as necessary, it being important that the foliage be kept clean and healthy as long as possible. With free access to light and air the buds will form perfectly, attention being given to a due supply of water to the roots. Where the fruit is ripening a free circulation of air will enhance the quality considerably, sufficient water only at the roots being given to prevent the foliage becoming limp, and secure air moisture by an occasional damping of available surfaces other than the trees for the benefit of the foliage, also fruit, which in an arid atmosphere is liable to become mealy, whilst it ripens prematurely if the trees suffer from an insufficient supply of moisture in the soil. Ants in some cases are very troublesome, eating into the choicest and best fruits. Wrapping a little cotton wool round the stem of the trees hinders their ascent, securing it with soft twine in the middle soaked in creosote or a saturated solution of camphor. If creosote be used it must be kept from the stem of the trees. Saucers sunk in the soil, level with their edges and as near their haunts as possible, and pouring some treacle or syrup into each, attracts them from the fruit.

*Late Houses.*—Attend to thinning and regulating the summer growths, and if they are laid in thinner than is customary with trees in early houses the wood will have a better chance of ripening, and the leaves will assimilate more food, storing it in the buds and wood for the support of the blossoms and embryonic fruit in the coming season. Gross growths tend to the impoverishment of the weaker, appropriate an undue amount of the sap, preventing an unequal distribution of the aliment, and favour nothing but unfruitfulness and gumming. They must be stopped, or better removed altogether. Endeavour to secure an even balance of moderately vigorous short jointed shoots, and to insure the wood ripening ventilate freely in the early part of the day, allowing a good heat through the day from sun, closing in good time so as to run up to 85° or 90°, for sun heat after evaporation has been going on for some time will not do any harm if only care is taken to admit a little air before nightfall to allow the pent-up heat and concomitant moisture to escape and the gradual cooling down of the atmosphere, thereby securing rest. The night and early day ventilation tends to the solidification of the growth and its ripening. Keep the trees free from red spider by forcible syringings until the fruit gives indications of ripening. The borders must be well supplied with water or liquid manure, and be mulched about an inch thick with short rather lumpy manure.

*VINES.*—*Early Houses.*—The earliest forced have the wood ripe and some of the leaves falling. Do not attempt to remove them forcibly nor cut the laterals close in, as that would probably cause the principal buds to start, therefore remove the laterals by degrees, and shorten some of the strong shoots, preserving, however, some growth, especially when the principal leaves are down, above the buds to which the Vines are to be pruned, deferring the final pruning until the early part of September. The old soil should be removed from the surface of the border, forking some of it from amongst the roots, taking advantage of the opportunity to raise any that are deep and laying them in fresh material nearer the surface. Good calcareous loam is the most suitable, with an admixture of bonemeal and wood ashes to the extent of a twentieth part equal proportions of those elements being taken. If the soil be light, add a sixth of clayey marl; if heavy, a sixth of old mortar rubbish. Charcoal may be used to the extent of one-tenth. Give a moderate watering, and the roots will push, especially adventitious ones from near the collar, into the new soil at once, and be in capital condition for a start when the time of starting comes round. When lifting or renovating the border is delayed until the leaves are all down the Vines do not start so freely, the break often being unsatisfactory.

*Midseason Houses.*—The Grapes upon the whole have been satisfactory as regards colour and bloom, and the season has favoured size and freedom from red spider. The Vine seems to delight in a good array of foliage fully exposed to light, as the wood is then stout, short-jointed, and the leaves thick, leathery, and deep green in colour, the Grapes well nourished, and the buds plumped for next year's bearing. Copious supplies of water through a mulching, not a thick soapy mass but light open material, along with surface dressing or liquid manure of a sustaining rather than a stimulating kind, contribute to a satisfactory result. Fire heat is often necessary to ripen midseason Grapes perfectly, but with ventilation day and night to insure a circulation of air it may often be dispensed with in warm weather. The nights, however, are now getting cold and fire heat may be necessary, though a good rest at night aids Vines wonderfully that are carrying heavy crops of Grapes. Enough fire heat should be given to maintain the temperature at 70° to 75° by day and 60° to 65° at night, allowing 5° more for Muscats.

*Late Houses.*—Afford full supplies of water through a good surface mulching, sweetened horse droppings, or stable litter freed of the straw answering well when not more than a couple of inches thick, continuing the supplies of nourishment until the Grapes are well advanced in colour, for most late Grapes take a long time to perfect thoroughly, and some, particularly Mrs. Pince, even after appearing finished, are not so up to the shank, which is often a consequence of too short supplies of food, and in some cases the consequence of too early stopping the supplies of nutrition are manifest in the Grapes shrinking, as not unfrequently occurs with Muscats. All late Grapes require time. They ought now



to be colouring, or advanced therein, and they must have a fair amount of air moisture with a circulation of warm air constantly, in which they will attain fulness of berry and perfection of finish, diminishing the air moisture as the Grapes advance in colouring. Poverty of finish is the chief cause of Grapes shrivelling, cracking resulting of a close atmosphere following a period of drought, or ventilating injudiciously and an arid atmosphere in the early stages of ripening render Grapes highly susceptible of atmospheric moisture after they are ripe, if, indeed, they do ripen without cracking. Afford a temperature of 70° to 75° by day artificially, 80° to 90° with sun, and close sufficiently early to increase to 90° or 95°. When the sun is losing power put on enough top and bottom air to insure a circulation of air; allow the temperature to gradually cool, which rests the Vines, and increase the ventilation early with the advancing temperature. The hot-water pipes should, if necessary, have a little warmth in them to prevent the night temperature falling below 65° at night.

#### THE FLOWER GARDEN.

*Spring Flowering Annuals.*—Much may be done towards brightening up the flower beds and borders next spring with the aid of annuals and biennials, the best among these being Sweet Alyssum, Candytuft, Corn Marigold, Clarkias, Collinsias bicolor and grandiflorum, Coreopsis tinctoria, Godetias in variety, dwarf Larkspurs, Leptosiphon androsaceus, Limnanthes Douglasi, Nemophila insignis, Pansies, Poppies, Saponaria calabrica, Scabious, Silene pendula and pendula compacta, Venus's Looking Glass, Virginian Stocks, and Viscaria cardinalis. The Silenes, Saponaria, Pansies, and Violas move well, and some of the others can occasionally be transplanted fairly well, but as a rule they are best sown thinly in beds, patches, or lines where they are to flower. In either case moisten the soil prior to sowing the seed and cover lightly with sifted soil. This being done not later than the middle of August, and the plants duly thinned, they will become stout and strong; and, being preserved from slugs, will pass safely through the winter. It is somewhat late to sow Violas and Pansies, but if the seed is sown in a sheltered position, and not disturbed till the spring, they can be transplanted and will flower well.

*Tuberous Begonias.*—Late raised seedlings of these should be taken good care of, as they will form small bulbs for storing, and be of a serviceable size next summer. If they are at all thick in the seed pans transplant carefully to either a frame or to boxes, using a fairly rich light soil, and disposing them 3 inches apart each way. Keep them in a moist state at the root while growing strongly, and when the tops die store them in a cool dry place, where severe frosts cannot reach them. Larger sizes, if not wanted for the flower beds, would have been best located in nursery beds. All that flower, in fact Tuberous Begonias generally, should be labelled according to their habit of growth and flowering, or whether the flowers are erect or pendulous, the former being the best for beds, and the latter for vases and hanging baskets. Note their respective colours, so as to be able next season to mass the colours, the most effective arrangement. Now is a good time to take cuttings of the best varieties. Trim off the lower leaves, cut to a joint, and then dibble them in at the foot of a sunny wall or on a raised south border, a little sharp sand only being added to the ordinary garden soil. Thus treated they will strike root as readily as Zonal Pelargoniums, and form small tubers before dying down.

*Verbenas.*—Though not so generally used as of old, these are yet among the most effective of the summer bedding plants. The greatest difficulty is usually experienced in getting clean, healthy cuttings both now and in the spring, but unless these are forthcoming a poor stock of plants will be raised. This season, being cool and showery, suits the Verbenas well in some respects, plenty of flowerless young shoots now springing up from the centre of most of the plants. No time should be lost in preparing plenty of these. Bottom heat is not needed at this early date, but would be necessary if the propagation is much longer deferred. Place a single light frame on a hard bottom, half fill with partially decayed leaves and manure, treading it down firmly, and on this spread 3 inches of fine light soil, finishing off with a surfacing of silver sand. Shorten quite young flowerless shoots to the third joint, removing the lower pair of leaves, and dibble them in one inch apart each way. Water gently, keep the frame close, shading heavily on bright days, and more lightly on duller days. Do not let them suffer for want of a dewing over occasionally, and it will benefit the cuttings by having the lights drawn off on fine nights. Thus treated they soon strike root, and before the roots become interlaced all the plants ought to be carefully raised and placed in pans of fairly rich soil, being returned to frames till re-established. In this manner a capital lot of sturdy stock plants will be prepared, these wintering best in a cool, airy house, only enough heat being turned on to keep out frosts.

#### PLANT HOUSES.

*Glorinias.*—Seedlings should be placed into 4 or 5-inch pots, according to their size. If they are not grown too warm they will flower freely at a time when outside flowers are scarce. Water carefully until they are rooting freely, and shade the plants from bright sunshine only. Plants that have flowered should be watered carefully, gradually diminishing the supply as they die away naturally. It is a mistake to ripen them prematurely. Do not place them under stages where the drip of other plants fall upon them and light is excluded. They ripen well on a shelf at the back of ainery where they enjoy subdued light.

*Stephanotis floribunda.*—Plants that have flowered and made good growth must be fully exposed to the sun. Admit air liberally to ripen and harden the wood. This is the secret of a good supply of flowers

another year. Syringe twice daily to keep the plants clean, and do not allow the ends of growing shoots to twist together. If they once get into this confused condition if mealy bug exists upon them it is impossible to keep them clean. In the end they also entail double the labour to remove them from the trellis than would be required to train the shoots properly as they grow. Plants that are root-bound and still growing freely should be supplied with weak stimulants every time water is needed. Where an increase in the number of plants is required it is a good time to insert cuttings. Growing shoots moderately soft, with the soft point removed, root freely in heat under handlights. If these are kept in a temperature of 60° they will, if potted, make good plants by the end of next season.

*Ixoras.*—It is a mistake to shade these plants, they ripen their wood and flower with greater freedom when fully exposed to the sun than when grown in mixed stoves and are shaded. Plenty of cuttings should be rooted, soft-growing ends being selected for this purpose. They should be inserted singly in small pots, as they root quickly in brisk heat. Once they are rooted and will bear full exposure place them on a shelf close to the glass, and transfer when ready into 4-inch pots. These plants, where plenty of heat is at command, are easily grown, and for general purposes they are more effective with one or two trusses of flower in 4-inch pots than plants of a larger size. Plenty of heat and careful watering are needed, but they are not particular about soil, although they do best in peat and sand. We have, however, succeeded in growing them well in equal proportions of loam and leaf mould that has not been heated, and coarse sand. During the winter the atmosphere should not be kept too moist or the syringe used over the foliage. The old *Ixora coccinea* requires the most careful watering perhaps of any.

*Begonia semperflorens carminea.*—This is one of the best Begonias that can be grown, and it would flower all the year round if allowed to do so. It will, however, flower profusely eight months out of the twelve. Those that commenced in January last have continued to flower up to the present time. These plants should be cut back, keeping them on the dry side until they break into growth, when they may be turned out of their pots and the roots partially reduced and replaced in the same size. They will soon commence growth in ainery or any structure where a little heat is maintained. Water carefully until they are rooting freely. Cuttings may be inserted singly in 2-inch pots, but it is necessary to select shoots that have an eye at the base. Any of the tops will root, but they only extend and flower, being useless after they are pruned back, unless by accident they force a growth bud at the base. If this is provided when the cuttings are inserted all will go well. This applies to many evergreen and semi-tuberous kinds.

*Allamandas.*—We saw a fine plant recently, and was told it had ceased flowering. It was growing luxuriantly, but had not a single flower. The reason for this was the plant was crowded with growths, and the house shaded. The growths of Allamandas should be evenly but thinly disposed over the roof of the house, and be fully exposed to the sun. At one time we shaded them during the hottest hours of the day, but have found this practice unnecessary, and they make short-jointed wood and flower more profusely without shade. From three plants not eighteen months old we shall gather before this is in print fully 500 blooms. Every shoot about 1 foot from where they branch should be full of flower buds. It is necessary after branching two or three times from the base to thin the shoots, and leave only those that are required to furnish the roof. Allamandas should under proper treatment begin flowering when the growths are 18 inches long, and continue as long as water and liquid manure is supplied if they are grown in pots.

*Gardenias.*—To grow large plants in one season root cuttings at once under handlights in brisk heat. It is a good plan to insert soft-growing shoots in small pots, and then give them a shift into a larger size. They must be kept growing slowly throughout the winter. All plants that are to flower during the winter and spring months must be fully exposed to the sun. Plants that were cut hard back late must be encouraged to make growth in brisk heat. Do not shade them, for healthy vigorous plants will grow strongly, and need full sun to ripen and harden the wood if they are to flower freely. Supply soot water and other weak stimulants to those that have been placed in their largest pots and have filled them with roots. Syringe freely to keep the foliage clean, and if scale is present dress with petroleum and water, one ounce to each gallon of water. Shade afterwards until the oil has evaporated. Although Gardenias will bear strong doses of petroleum it proves detrimental in the end if resorted to frequently. It is better to give the plants two or three applications of moderate strength than one strong dose.



#### APIARIAN NOTES.

##### THE WEATHER AND BEE FLOWERS.

AFTER about a quarter of an inch of rain on August 3rd and 4th, with one fine day on the 5th, dry winds have come, and the weather is unsettled again.

Moorland flowers, like those in the dales, are in great pro-



fusion, and with the recent welcome rain and two weeks settled weather the bees would be certain to gather much honey. I have been several weeks later this year taking my bees to the Heather than formerly, owing to the lateness of the season at home. I intend taking them on the 11th, and with ten days of honey gathering weather they will amply repay trouble and expense. Security against bees getting loose, and ample ventilation to insure their safety, are two essentials in taking bees long distances. It is advisable to give every colony as much empty space as they can occupy.

As most of our hives have been provided with young fertile queens I will not be troubled with swarming this year, at least until the beginning of September.

#### THE AGE OF BEES.

Some writers have stated that their life is limited to four to six weeks. Few bees were bred after July in 1890. I have two hives at present that became queenless before many bees were bred the past spring, and through stress of weather the young queens did not begin to lay till about the 1st of July, and yet in both of these hives there are a good many 1890 bred bees.

Bees are, generally speaking, from two to three weeks old before they begin to work outside (Punics are an exception to this rule), and I have witnessed bees return to their original stand after they had been returned from four to six weeks' stay at the Heather.

#### THE TIME QUEENS PIPE.

As interesting as the age of bees is the time that elapses between the depositing of the egg that is selected for a queen and the time she is allowed to creep out of the cell. Ten to fourteen days is generally believed to be the time occupied between prime and after swarms, and occasionally three weeks may elapse, but this is believed by a few only. To tell the same individuals that four weeks or more elapse in some cases between the first and last event would be met with incredulity. I have had cases of that nature frequently, and six have occurred in my own apiary this season. Twenty-eight days intervened between the laying of the egg and the emergence of the after swarms. To many the phenomenon would have been perplexing, but I was a sufferer through loss of valuable time. I ought to have excised every queen cell but one; twelve days would then have been saved, and the queens still unmated might have had brood ready to creep out and begin work at a season they would have been of great service.

There is no part of bee-keeping so important in a profitable point of view as the timely regulation of supernumerary queen cells, and getting a fertile queen at the head of every colony at the earliest possible moment after the issuing of the first swarm; and bee-keepers will study their own interest best if they plan so as to accomplish that, for queens are always not only more prolific but most profitable in the early months of their existence.

#### PUNIC QUEENS.

Another point of interest in their favour—they are lively, and venture out when other queens do not, and so become fertile sooner than queens of other varieties do. A few days' delay in some matters does not signify much; but with bees it is of the utmost importance that there be no delay, especially in providing every colony with a laying queen at the earliest, and without delay. Should the weather prove favourable during the next four weeks I shall have ample opportunity of watching and testing the qualities of these bees, which shall be laid before Journal readers. So far I can say nothing against them, but the main point—honey gathering by the pure race—is still to be proved, and what tends towards that is their prolificacy already proven, and if they attend as assiduously to their own business at the Heather as they seem to do at home their doings will surprise some, and the much-despised little working "niggers" will gain many friends. Although they

do not surpass but are equal to others, their other good qualities mentioned will make them favourites with—A LANARKSHIRE BEE-KEEPER.

#### SELLING PUNIC QUEENS.

IN the Journal for August 6th "A Lanarkshire Bee-keeper" thinks I ought to advertise these queens. I am very much obliged to him for his well meant advice, but unfortunately the season is now over. When I obtained the queens it was too late to advertise any, and apart from that I had no desire to sell any. Next year I hope things will be different, and that I shall be able to advertise imported, home-bred, and virgins. So far I have only been selling virgins. It is no use asking for orders if you are not sure of being able to supply them; besides, the public have been so bitten with foreign bees that they naturally fight shy of new ones at higher prices than ever. I may fairly ask as your correspondent has introduced the subject, Why cannot "A. L. B. K." advertise and sell these bees? He has plenty of imported breeding queens for the purpose.—A HALLAMSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

Dickson, Brown & Tait, 43 and 45, Corporation Street, Manchester.—*Catalogue of Bulbs.*

J. R. Pearson & Sons, Nottingham.—*Catalogue of Bulbs.*

J. R. Box, Croydon.—*Catalogue of Bulbs.*



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Newbury Show (W. Y.).**—We are much obliged, but unable to insert long newspaper reports of local shows. The Exhibition appears to have been comprehensive and good.

**Case for Ferns (S. G. R.).**—So far as we can understand the matter you desire to enclose some space next the back wall where you can grow Ferns. We do not see any reason why you should not do so, and the other plants named would grow in the house under suitable cultural conditions.

**Late Apple (J. B., Lincoln).**—There has been some mistake. The two Apples sent are distinct, and if both grew on one tree it has either been grafted at some time or sported. One is worthless, the other excellent. The good one is the Winter Pearmain, described in the "Fruit Manual" as "a valuable and beautiful Apple, suitable for dessert or culinary use from December to the end of April. The tree is very hardy and an excellent bearer."

**Chrysanthemum Shoots Eaten (J. D.).**—The shoots sent have the appearance of being eaten by carwigs, which if not caught frequently ruin both Chrysanthemums and Dahlias. The depredators as a rule rest in obscurity in the daytime and feed at night. They may be caught in hollow stems, such as beanstalks, also in flower pots with a little dry hay or moss placed lightly in them and inverted on the stakes that support the plants. The traps should be examined every morning without fail, and the earwigs blown or cast in water, and they can then be given to fowls if you have any as a change of diet, which they seem to enjoy; then if you eat the fowls you will have some compensation for the carwigs and your trouble.

**Offensive Cesspool (R. A. C.).**—The first cesspool was so offensive that a new one had to be built, and that has become so great a nuisance that the builder recommends the construction of a third. Does it not occur to you that the third must also fail as the former ones have done? The cesspool is all-sufficient for its purpose, and under ordinary circumstances would only require cleaning out occasionally, but the overflow water is expected to soak away in the sand, which it appears to do for



a time, then it becomes so choked with sediment that it oozes through the "bank." We do not see how a pipe having one end below the level of the "water" in the tank can possibly have any effect. The gases will ascend by the ventilating pipe. The fault is not there, nor in the tank, but in the overflow, and that can only be dealt with two ways. 1, By deodorisation, as with town sewage; 2, continue the overflow to a point where its outlet would not be offensive. There is one more plan. Empty the cesspool often enough to prevent overflowing.

**The Apricot Weevil** (*F. James*).—The name of the glossy black weevil is *Otiorynchus tenebrius*. It is an enemy to fruit trees that are trained against the wall, the Apricot being the greatest sufferer from its attacks. Vines also are much damaged by this beetle, the larva of which lurks at the roots, and does infinite damage, though unseen. The perfect insect is fond of hiding in the crevices found so commonly in old walls, and finds a congenial resting-place beneath the rough bark of the Grape Vine. Mr. Curtis, whose experience on such subjects is well known, advises that where the wall-fruit fails from no apparent cause, every chink in the wall should be stopped with cement, plaster of Paris, or mortar—the first-mentioned substance being most effectual—and that the rough bark of the Vine should be stripped off in the early spring. Whitewash, also, should be liberally used in the interior of hothouses and greenhouses; and in October the earth round the roots should be removed, and a diligent search made after the beetle, so as to prevent it from laying its eggs. These minutiae are somewhat tedious, but the gardener will be well rewarded by the improved condition of his fruit trees. If the beetle should be found lurking along the base of the wall, it will be advisable to lay salt thickly along the wall, as the insects are killed almost instantaneously when they come into contact with that substance. Strong tobacco water poured along the base of the wall will have the same effect, and infusions of aloes and quassia are useful.

**"Ockra"** (*General Hamley*).—The following extract from Dr. Hogg's "Vegetable Kingdom" has reference to the plant in question—"Hibiscus esculentus (*Abelmoschus esculentus*) is the Ochro or Okro of the West Indies, the Gombaud or Gombo of France, the Baudikai of Madras, and the Ram turai and Dhenroos of Bengal. This plant is cultivated as a potheb in the warm countries of Asia, Africa, and America, and also in some parts of the south of Europe and the Levant. The parts used are the long pyramidal young seed pods, gathered when green, which are filled with a large proportion of nutritious mucilage, and form a jelly with water. They are used for thickening soups, and when buttered and spiced make an excellent dish. The seeds are used in soups in the same way as we do barley, and they have also been recommended when roasted as a substitute for coffee. Besides as an ingredient in soups, the Ochro is thus employed: Before the pods have arrived at maturity, of whatever size that may be, they are first boiled in water, then dried a little, and allowed to cool; after which they are cut transversely into two equal parts, retaining the seeds. They are then placed in layers one over the other, and vinegar and oil poured over them, and seasoned with pepper and salt. After being boiled, they may also be eaten with the gravy of meat. These pods, which are from 2 to 6 inches long, are the chief ingredient in the celebrated pepper-pot of the West Indies, which is considered a rich dish, the other ingredients being either flesh, or dried fish and capscums. As a medicine Ochro is employed in all cases where emollients and lubricants are necessary. The bark of this plant abounds in fibre, which is of fine quality. H. (*Abelmoschus*) bammia is the African Ochro, which Dr. Royle seems to think does not differ materially from the preceding; but G. Don, who was acquainted with, and had partaken of both species in their native situation, regards them as distinct. Speaking of the Bammia, he says: 'We have seen it cultivated with the Okro, or H. esculentus; it is called the Autumnal Okro, and the young pods are used to make Okro soup. It differs from H. esculentus in the leaves not being so deeply lobed and in the pods being much longer.'"

**Mites on Torenia** (*J. L.*).—We have communicated with Mr. Bardney on this subject, and he says he sympathises with you in your endeavours to stamp out the pest that infests your plants. For some years the minute insect gave him much trouble, and this year it has appeared in force on a variety of plants. Many gardeners have suffered from its ravages, but as the insect is so minute they have overlooked it. It belongs to the same family as the "red spider," which, however, is not a spider, but a mite. No doubt the red form has received this name through weaving a fine web on the leaves of plants. The insect to which you have drawn attention is similar in shape to the "red spider," but considerably smaller and white. Like that insect it weaves a very fine web, which can only be seen under a strong magnifying glass. It belongs to the family of mites called Tetranychidae, and Mr. Bardney calls it *Tetranychus talarius alba*—that is, adding the last word to the name of the red spider—but thinks the means by which it can be eradicated is perhaps of more importance than its name. If you have one or two plants infested only he advises you to burn them. It is brought about, he says, by an attempt to grow plants too quickly—that is, by maintaining a too warm, too close, and too confined an atmosphere. A warm moist atmosphere favours its increase, especially when very little air is admitted. Frequently when plants are removed from atmospheric conditions of this nature to a cool, airy house they recover; indeed, he has never known a failure with such plants as Achimenes, Gloxinias, Begonias of sorts, Fuchsias, Celosias, and many others of a like nature when thus treated. It attacks Cucumbers and Melons, even the tips of Crotons. The only means of stamping it out is to use less moisture, give more air, and not

close the house with much sun heat in the afternoon. In addition to this treatment he places one handful of sulphur, or a 3-inch potful, into two gallons of water in which an ounce of softsoap has been dissolved, adding sufficient tobacco juice to turn the water the colour of ale and stout mixed in equal proportions. This he leaves on the plants three or four days, when, by the cooler treatment advised, he finds the insects vanish, and healthy growth commences. Mr. Bardney expects it is the same minute insect that causes the leaves of Vines to turn hard, brown, and crisp—at least, that is the effect it has on all plants which it attacks.

**Names of Fruits.**—The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*A. O.*).—The Cherry is Florence. (*M. W. B.*).—It is most difficult to name Raspberries from fruits sent by post, and when crushed, as many were in this case, impossible. The long fruit resembles the Autumn-bearing or October Red. (*G. R. B.*).—The Peach is Lord Palmerston.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. T.*).—1, Insufficient without flowers; 2, *Mimulus cardinalis*; 3, *Centranthus rubra*. (*T. V.*).—1, *Acer Negundo*; 2, *Ailantus glandulosa*; 3, *Populus alba*; 4, *Ulmus montana variegata*; 5, *Hedera Rægnieriana*; 6, *Cryptomeria elegans*. (*Nemo*).—1, *Adiantum Pacotti*; 2, *Spiraea arifolia*; 3, *Centranthus ruber*; 4, *Sedum ibericum*; 5, *Cornus mas variegatus*.

#### COVENT GARDEN MARKET.—AUGUST 12TH.

MARKET heavy with prices lower all round.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, $\frac{1}{2}$ -sieve .. ..	1	6	to	3	9	Lemons, case .. ..	15	0	to 20 0
Grapes, per lb... ..	1	0		2	6	Oranges, per 100 .. ..	4	0	9 0
Cherries, $\frac{1}{2}$ -sieve .. ..	6	0		10	0	Peaches, per doz... ..	1	0	6 0
Black Currants, $\frac{1}{2}$ -sieve..	7	6		0	0	St. Michael Pines, each..	3	0	8 0
Red .. ..	2	9		4	6	Strawberries, per lb. ..	0	0	0 0

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Asparagus, per bundle ..	0	0	to	0	0	Mushrooms, punnet ..	0	8	to	0	10
Beans, Kidney, per bush.	4	0		8	0	Mustard & Cress, punnet	0	2		0	0
Beet, Red, dozen .. ..	1	0		0	0	Onions, bunch .. ..	0	3		0	5
Cabbage, dozen .. ..	0	0		0	0	Parsley, dozen bunches	2	0		3	0
Carrots, bunch .. ..	0	4		0	0	Parsnips, dozen .. ..	1	0		0	0
Cauliflowers, dozen..	2	0		3	0	Potatoes, per cwt. ....	3	0		4	0
Celery, bundle .. ..	1	0		1	8	Rhubarb, bundle .. ..	0	0		0	0
Coleworts, doz. bunches	2	0		4	0	Salsafy, bundle .. ..	1	0		1	6
Cucumbers, doz. ....	1	0		4	0	Scorzonera, bundle .. ..	1	6		0	0
Endive, dozen .. ..	1	3		1	6	Shallots, per lb. ....	0	3		0	0
Herbs, bunch .. ..	0	3		0	0	Spinach, bushel .. ..	5	0		6	0
Leeks, bunch .. ..	0	2		0	0	Tomatoes, per lb. ....	0	4		0	6
Lettuce, score .. ..	0	9		1	0	Turnips, bunch .. ..	0	0		0	4

#### AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms very good, rather plentiful.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	2	0	to	4	0	Marguerites, 12 bunches	2	0	to	4	0
Asters, doz. bunches ..	3	0	6	0	Marigolds doz. bunches ..	1	6	2	6		
„ (French) doz. bchs.	9	0	12	0	Mignonette, 12 bunches..	1	6	3	0		
Bouvardias, bunch ..	0	6	1	0	Myosotis, dozen bunches	2	0	4	0		
Carnations, 12 blooms ..	0	9	1	6	Pansies, dozen bunches..	1	0	2	0		
Carnations, doz. bunches	3	0	6	0	Pelargoniums, 12 bunches	4	0	9	0		
Cornflower, doz. bunches	1	6	3	0	„ scarlet, 12 bchs	3	0	6	0		
Dahlias, doz. bunches ..	3	0	6	0	Pink (various) doz. bchs.	2	0	4	0		
Eschscholtzia, doz. bchs.	2	0	3	0	Poppies (various), 12						
Eucharis, dozen .. ..	2	0	4	0	bunches .. .. .	1	6	4	0		
Gardenias, per doz. ..	1	6	4	0	Primula (double) 12 sprays	0	6	1	0		
Gladiolus (white), dozen					Pyrethrum, doz. bunches	2	0	4	0		
bunches .. .. .	4	0	8	0	Roses (indoor), dozen ..	0	6	1	6		
Lapageria, 12 blooms ..	2	0	4	0	„ (mixed), doz. bchs.	2	0	6	0		
Lavender, dozen bunches	5	0	8	0	„ Red (English) per						
Lilium candidum, 12 blms	0	4	1	0	dozen blooms ..	0	9	1	0		
Lilium longiflorum, 12					„ Tea, white, dozen..	1	0	2	0		
blossoms .. .. .	2	0	4	0	„ Yellow, dozen ..	2	0	4	0		
Lilium (various) dozen					Sweet Peas, doz. bunches	2	0	3	0		
blossoms .. .. .	1	0	3	0	Sweet Sultan, doz. bchs.	2	0	4	0		
Maidenhair Fern, dozen					Tuberose, 12 blooms ..	0	4	0	6		
bunches .. .. .	4	0	9	0							

##### PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Aralia Sieboldi, dozen ..	6	0	to	12	0	Foliage plants, var., each	2	0	to	10	0
Arbor Vitæ (golden) doz.	6	0		8	0	Fuchsia, per doz. .. ..	4	0		9	0
Asters, dozen pots .. ..	4	0		8	0	Geraniums, Ivy, per doz.	3	0		6	0
Begonias (varicus), doz.	4	0		9	0	Heliotrope, per doz. ..	4	0		8	0
Calceolarias, per dozen ..	4	0		6	0	Hydrangeas, per doz. ..	9	0		12	0
Campanula, various, doz.	6	0		12	0	Lilium longiflorum, doz.	18	0		30	0
Coleus (various), per doz.	3	0		9	0	Lobelia, per doz. .. ..	3	0		6	0
Dracæna terminalis, doz.	24	0		42	0	Marguerite Daisy, dozen	6	0		12	0
„ viridis, dozen .. ..	12	0		24	0	Mignonette, per dozen ..	3	0		6	0
Erica, various, dozen ..	8	0		12	0	Myrtles, dozen .. ..	6	0		12	0
Euonymus, var., dozen ..	6	0		18	0	Palms, in var., each ..	2	6		21	0
Evergreens, in var., dozen	6	0		24	0	Pelargoniums, per doz. ..	6	0		12	0
Ferns, in variety, dozen..	4	0		18	0	Pelargoniums,scarlet, doz	2	6		6	0
Ficus elastica, each ..	1	6		7	0	Tropæolums, per dozen ..	3	0		6	0





## STEPHEN'S BOOK OF THE FARM.

(Fourth edition, revised by JAMES MACDONALD. Division VI.)

THE completion of this great work is matter for congratulation by all classes interested in farming, or rather in the more comprehensive term of agriculture, for it is equally a landlord's and tenant's book, and its publication in three large volumes as well as in the six neatly bound parts ensures its admission into many a landlord's library as a handy work of reference upon all details of practical farming. The value of its clear, concise teaching is greatly enhanced by the paragraphic headings, and reference to any section or detail of practice is a very easy matter.

Now that the entire work is before us we are more than ever impressed with its utility. Its tone throughout is essentially practical, and whatever of theory there is in it consists of quotations of the sayings or writings of leading agriculturists, whose views are undoubtedly an expression of practical experience, tempered by just that amount of individuality which may be termed theoretical; but then it is very safe theory, for is it not tempered by experience? There is indeed very little of what is speculative about it, certainly nothing calculated to mislead, but rather everything to assist the beginner or pupil, as well as many a useful hint at possible improvement in the work to old practitioners.

Glad are we to find a full and exhaustive index in the last part. A glance through it shows how comprehensive the work really is. Take, for example, ensilage as a matter of much importance, concerning which farmers have still much to learn, and we find there are paragraphs on its advantages, the analysis of sweet and sour silage, chaffing for, choice of methods, Clover silage, crops for silage, its future, grain crops for silage, its history, its facility for storage, its introduction into Great Britain, meadow grass silage, methods of pressure, Oat silage and roots, its progress, rearing stock on it, silos, special silage crops, stacks v. silos, sweet and sour silage, making sweet silage, and the comparative value of silage and hay. The treatment of other subjects is equally exhaustive, and the paragraphs are all pithy and to the point.

Brief but very useful are the chapters on improving waste land, trench and subsoil ploughing, liming land, and irrigation. Especially noteworthy is the account of the reclaiming some poor land near the Pentland Hills by Mr. William Hamilton. When he began the once-cultivated land was producing coarse herbage of poor feeding quality, while the other portions were in their natural state, growing bent, other coarse grasses, rushes, Heather, &c. The improvements consisted of tile-draining and liming, the nature and condition of the land being the guide as to distance apart and depth of drains, which varied from 6 to 16 yards apart, and from 3 to 5 feet deep, the naturally dry land not being drained at all, only limed. On all land that was dry enough lime was applied at the rate of 6 tons per acre; but the liming of the wet land was delayed about a year after the draining, so as to allow the soil to get rid of its excess of water. The average cost per acre for the draining was £5 10s., and for liming £4 4s. Three hundred acres have been treated, and the investment has proved a good one. The character of the pasture has been entirely changed, and a growth of fine nutritious grasses has come up in place of the coarse and wiry herbage. We have had equally satisfactory results in our own practice in the treatment of poor and wet pasture, and call particular attention to Mr. Hamilton's success, as calculated to inspire those of our correspondents with confidence who occasionally seek our assistance in the treatment of similar pasture.

The plans and descriptive notes of farm buildings are especially valuable, and will doubtless be turned to account in the

construction of many a homestead. It by no means follows that any of the plans given are to be closely copied. Each farm has its special requirements, and such plans afford many a valuable hint which may readily be turned to account.

Breeds of farm live stock are treated of in brief descriptive notes, followed by others on the ailments of live stock under the three headings of Symptoms, Cause, and Treatment, which is really a reprint of the treatise on this subject published by the proprietor of the "Farming World," and though exception has been taken to such a proceeding, we really do not see how Mr. Macdonald could have done better, as he says his aim was to enable the farmer to recognise the symptoms of such ailments, and to treat those of the more simple kind; and as the treatise was compiled, edited, and revised by men of high ability, what could be more suitable for his purpose?

We can only mention in addition some excellent examples of and advice on farm book-keeping, and conclude our notice by cordially commending the work to the notice of every practical farmer who, in the words of the reviser, requires "a work which he can with profit make the subject of general study, and which he can with confidence refer to at any moment when he is in want of advice."

## WORK ON THE HOME FARM.

For a corn harvest of exceptionally general abundance a change to fine settled weather is much to be desired. The haymaking has been sadly prolonged, and surely now if ever the true value of ensilage must obtain general recognition. Even in the exceptionally dry climate of East Anglia it was not an easy matter to make good hay between the showers of rain which fell so frequently even there, and in the midlands there is still some grass unmown. Caution has been the order of the day with all the Stilton cheese men. They have only mown a few acres at a time, and got it into "cob" as quickly as possible. The usual cheery greeting of "good morning" has almost invariably been followed by sympathetic remarks about the "catchy" weather. It is a serious matter to them, dependant as they are upon the hay supply for the cows and store cattle in winter, with no straw, roots, or corn to fall back upon, which shows how great is the mistake to have all the land of any farm in grass. The excellence of much of the midland pasture is undoubted, but a fair proportion of arable land under really good cultivation would prove a great boon. It by no means points to corn-growing other than would be useful for cattle or sheep food; rather would it afford most useful crops of Oats, Sainfoin, Tares, Lucerne, Rye Grass, mixed seeds, Clover, Maize, Cattle Cabbage, and Thousand-headed Kale. Many a midland farmer has none of these crops, and has to trust entirely to permanent pasture—excellent in quality, but often sadly deficient in quantity, for there is little or no systematic application of manure. There are no cow or cattle yards, and any mention of chemical manures is received with an incredulous smile, the outcome of positive ignorance and its concomitant of prejudice.

All the catch crops mentioned are exceedingly good this summer, for the dripping weather has given an abundant growth of aftermath, and of all forage crops. Roots, too, are an exceedingly good crop, notwithstanding alarming accounts of Turnip beetles. As usual, the early-sown Mangolds and Swedes are much the best, and the crop must now be a heavy one. Carrots, too, are very good. This crop is one requiring more pains in its young state than most others, but it well repays all care, and we regard it as quite indispensable for every home farm.

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

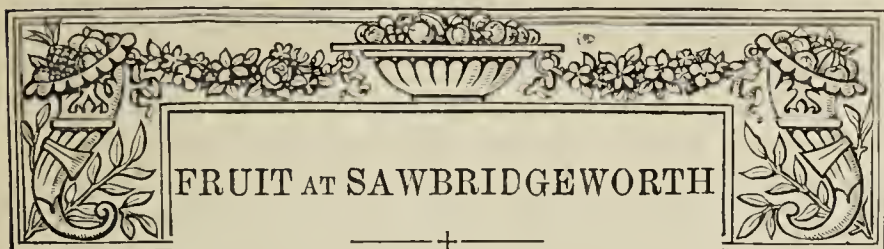
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.					Rain
1891. August.		Barometer at 32° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
			Dry.	Wet.			Max.	Min.	In sun.	On grass		
		Inches.	deg.	deg.		deg.	deg.	deg.	deg.	In.		
Sunday .....		29.908	61.4	57.2	S.W.	59.0	68.3	54.0	113.9	48.8	0.725	
Monday .....		29.594	53.6	54.3	S.W.	59.0	66.9	53.1	118.2	49.6	0.013	
Tuesday .....		29.610	56.9	52.0	S.W.	58.6	68.6	47.2	120.4	43.4	0.290	
Wednesday .....		29.790	55.3	53.2	N.W.	57.7	70.1	49.2	111.9	44.3	0.016	
Thursday .....		30.060	53.4	51.9	N.E.	58.6	62.1	51.7	98.3	44.3	—	
Friday .....		30.130	59.4	52.4	W.	57.6	67.3	47.0	117.6	44.4	—	
Saturday .....		30.155	64.9	60.0	S.W.	58.0	74.6	52.4	120.6	49.8	0.038	
		29.892	58.5	54.4		58.4	63.3	50.7	114.4	46.9	1.082	

## REMARKS.

2nd.—Bright till 11 A.M.; heavy rain 11.20 to noon, then bright to 1.30 P.M., overcast after with heavy showers; heavy rain with thunder and lightning 2.50 to 3.15 P.M., and again at 7.30 P.M.; frequent thunder all afternoon.  
 3rd.—Slight showers at 8.3 A.M., 11 A.M., and 4 P.M., otherwise bright throughout; thunder about 2.30 P.M.; much distant lightning at night.  
 4th.—Bright morning; almost continuous heavy rain with frequent thunder from noon to 3 P.M.; then fine again, and shower at 9.15 P.M.; lightning at night.  
 5th.—Fine, and generally bright.  
 6th.—Rain early, dull and damp all day; fair evening.  
 7th.—Alternate spells of cloud and bright sunshine throughout.  
 8th.—Fine and generally bright day; rain at night.  
 An unsettled and rainy week, with a good deal of thunder and lightning. Temperature nearly 5° below the average.—G. J. SYMONS.





## FRUIT AT SAWBRIDGEWORTH

IT would be difficult to find a day in the year when home-grown fruit could not be found in abundance in the great nurseries of Messrs. T. Rivers & Son. Before Apples and Pears are over Peaches and Nectarines are in, then follow Cherries, Plums, and Grapes, while Oranges appear to be ready for gathering always, and all other fruits in their season. There were several sights in the way of fruit to be seen last week, and some if not most of them astonished not a little a gentleman who has seen a great deal in town and country, Mr. Eagleton, clerk to the Fruiterers' Company. Never before had he seen such collections of Pears, Apples, and Plums plunged to their rims in pots outdoors, the trees laden with splendid fruit, giving rise to a sense of wonder how they and the crops could be so well supported from such a small bulk of soil. This feeling was perhaps intensified on entering the simple but in all respects efficient orchard houses—the sides of posts and boards—the roofs of glass—in which magnificent Apples, Pears, Plums, Peaches, and Nectarines were approaching the ripening stage—trees from 6 to 12 feet high carrying from a dozen to four times as many fruits, and making the healthiest of growths as well, showing not the faintest signs of exhaustion. "Rooted through I suppose," was the remark of one of the visitors, as if to display his knowledge of the "way things are done;" but he was met with a prompt "Oh, no! lift up the pots." As this was done it was clear that all the roots were strictly confined in them, and in fact several were elevated on other pots, and the "rooting through" notion was banished. Heavy top-dressings of kiln dust and manure, rising an inch or two above the rims of the pots, no doubt gave much support, but all the same the splendid condition of the trees in wood, foliage, and fruit teach a lesson in cultivation, and set the mind a thinking whether many fruit tree borders are not made needlessly large and deep. With a mass of fibres within a short radius of the stems and adequate support of the right kind the healthiest of growth is produced and the finest of fruit.

Though the Sawbridgeworth soil, calcareous loam of sound texture, is naturally good for fruit, Peach trees planted out bear no comparison in respect to health and the value of their crops with those grown in pots. It may be expected that liquid manure, such as soot water, is applied to the potted trees, and this being so the atmosphere must be more liberally charged with ammonia and carbonic dioxide than would otherwise be the case, and the trees derive nourishment accordingly through the foliage. It was noticed that the atmosphere was genial, with the suspicion of a pleasant pungency, and the ashes on which the pots stand were damp. In such case, however free the ventilation, the atmosphere of the house is genial, for vapour rises the more freely in consequence of the ventilation when the external air is dry. The circulation of air in the houses in question is full and free, the light has full and free action on the leaves, and the evaporation rising from the damp but not saturated base, charged as it is with more than the ordinary quantity of gases that are nourishing to vegetation, must be absorbed by the leaves to the benefit of the trees.

As he has indicated by a recent note in the *Journal of Horticulture*, Mr. Rivers is clearly of opinion that his trees receive nourishment through the foliage. There cannot be a doubt on the point. Leaves absorb liquids freely, by their under surfaces especially, and both ammonia and carbonic dioxide are appropriated,

and from the ammonia at least some part of the essential nitrogen that plants obtain is thus derived, as ammonia consists of one equivalent of nitrogen to three of hydrogen. Carbonic dioxide (one equivalent of carbon to two of oxygen) is absorbed freely by leaves, as Boussingault proved by experiment, the air coming in contact with Vine leaves being speedily deprived of the whole of that gas. It is undoubtedly of benefit to them in larger quantities than is contained in the atmosphere, and only in excess is it injurious, as in the case of close frames on hotbeds when the manure has not been sufficiently purified. Ammonia in excess is also injurious, as has been often discovered by introducing too fresh and strong manure for mulching in fruit houses, whereas smaller quantities are decidedly beneficial.

Mr. Davis attributes the healthy condition of the splendid Vine at Manresa House in part to the judicious use of fresh horse manure frequently scattered in small quantities on the narrow border over which the quarter of a mile in length of rods are trained to the roof, but thick dressings at one time proved injurious. The leaves are dark, thick, and entirely free from insects. The cleanliness and remarkable health and crops of fruit on Mr. Rivers' fruit trees in pots must be to a material extent due to the nourishment they derive from the atmosphere, and they could not be in anything like the same satisfactory state if the floors of the houses were as dry as are those in many vineries, Peach and Melon houses, in which Vines, trees, and plants bear better crops of insects than fruit.

Many of the Peach and Nectarine trees in the Sawbridgeworth houses are models in training—perfectly formed pyramids 12 or 14 feet high, with the branches a foot apart, or thereabouts, from base to summit, and these laden with fruit. The trainer has good reason to be proud of them, but, as Mr. Rivers points out, naturally grown standard trees, with their heads near the glass, are the most profitable, as they need no training, but merely thinning to prevent overcrowding. Such trees were bearing heavily well coloured and excellent fruit, as were Apricots grown in the same easy way. The large house of posts and boards for sides and ends has been built nearly forty years, and is still in sound and good condition. It must have been an extremely profitable house, as though not heated, the trees in it have never failed to bear full crops of fruit. Hundreds of Peaches and Nectarines in 8 and 9-inch pots have long since been deprived of their crops, and are now in the open air ripening their wood, or, rather, it is thoroughly ripe. From these two or three-year-old trees fruits were gathered and sold for 48s. a dozen early in the season. Of course they were forced, but that is not all, for the varieties are much earlier than any in commerce, and one of the Nectarines especially, Early Rivers, leaves Lord Napier and all others a long way behind in ripening, as well as in size and colour. It will perhaps be distributed before very long, or when it has given a recompense by the fruit sold for the years that must elapse in raising fruit trees, weeding out, and proving the merits of those retained. Mr. Rivers can write books, and the law prevents others from increasing them, but when his new fruits are placed in the market those who purchase may increase them as fast as they like or can. Naturally he does not think the law consistent, but there it is, and as it is not very likely to be altered very soon, he shapes his course accordingly.

The engraving (fig. 24, page 159) of the Nectarine referred to exactly corresponds in size and form with a fine fruit from which it was prepared, and is a correct representation, as is the tree on which it was grown. The fruit is even in outline, with a distinct though shallow suture, terminating at the apex in a blunt pointed nipple. Skin bright red, except at the base and near the stalk. Flesh greenish yellow, succulent, briskly and richly flavoured. This fine Nectarine ripens three weeks before Lord Napier.

Some of the Plums in pots are beautiful objects. Monarch (Rivers) vertical cordons are roped with large bluish purple fruit. This is a Plum of the future—a Plum with "money in it" for



commercial culture. A number of low standard trees in the nursery display the free growth, splendid habit, and great productiveness of the variety, and as the crops do not ripen till towards the end of September they come in after the glut is over. When Mr. Rivers makes plantations of fruits for bearing it is good evidence that there is something in them that is sure to come out of them in due time. Another Plum laden with fruit in pots and outdoors is the Early Transparent of his own raising. This is certainly one of the best dessert Plums known, and as such is being "found out." It is more than a week earlier than the Green Gage, quite as good, and far more prolific. Then as a successor, indeed later than the Green Gage, is another Sawbridgeworth Plum for every garden—the Late Transparent, a purplish Plum, a dwarf, sturdy, stubby grower, abundant bearer, and most delicious. Fruits on trees in pots were ripe, and when divided were like cups of honey. The stone is very small, and the flesh separates from it freely.

In the large Plum plantations Early Rivers or Early Prolific are wonderful to see. There are hundreds of trees bearing tons of fruit. Gathering has been going on for some time, and men, women, and boys are continually engaged in the work. Being so early the fruit is clamoured for, and the order from fruit brokers is "Send all you can and as soon as possible." The branches are bent down with purple clusters, and how they will be all gathered seems somewhat of a mystery. The original tree, about fifty years old, is also bearing heavily, but the fruit is smaller than on the younger trees now in full profit, and this must be very considerable. Similarly laden are the trees which form a large plantation of Oullins Golden, and splendid trees they are of a beautiful greenish yellow Gage. As soon as the pickers have cleared the early purple just mentioned they will have to commence and gather this enormous crop. A young plantation of The Czar (Rivers) is also full of fruit nearly ready for gathering—a valuable market Plum. The Stint (Rivers) a reddish purple Plum of good quality, was bearing prodigiously, the bush not being much larger than a good sized Gooseberry bush, and the fruit ripe in the open—a garden Plum.

Turning to the Pears, the two greatest bearers are Beacon and Fertility. No matter on what stock or in what position, the crops are prodigious and always have been. They have not yet failed. It is almost certain that more fruit of Beacon may be had from a given space of ground than can be produced by any variety in cultivation, as the trees can be closely planted, growing upright like Lombardy Poplars. It is the most productive early market Pear, of good but not large size, colour, and quality. Fertility follows, the trees being crowded with fruit. These are Pears for the million, and will be seen on costermongers' barrows by-and-by. Mr. Gladstone is the best Apple now ripe, both in colour and quality. It is a rich crimson, tender, juicy, and pleasantly flavoured. The trees appear to be the reverse of vigorous, and though it will bear quickly on the French Paradise stock the trees are not likely to last long in usefulness. They will in all probability be better on the free stock or the valuable broad-leaved Paradise, which imparts vigour with productiveness. Duchess of Oldenburg is one of Mr. Rivers' favourite Apples for profit, and The Cardinal or Peter the Great is likely to be an excellent early culinary fruit. The trees are laden with firm, rosy-cheeked Apples, ready for gathering and would sell freely. What may be described as a new Lord Suffield will probably be heard of in future. The fruit is very large, resembling the variety named, but the character of growth is quite distinct, being as free, vigorous, yet sturdy as that of any variety in the collection. A number of young trees are fruiting of a new Irish Peach, raised from the old favourite. This, as is known, is not a great bearer, but the new one manifestly is, every tree being clustered with fruit in a way never seen in the parent variety. Several other seedling fruits of considerable promise are being tested, and only by the long trials to which they are subjected can their true character be determined.

Mr. Rivers is about to make a practical declaration of faith in

the future of hardy fruit culture by planting 200 acres of his agricultural land with trees and bushes. The plan which he most approves is to plant Apples, Pears, and Plums with clean stems of 3 or 4 feet to grow into natural bushes, 12 feet asunder, with plenty of space between the branches. These trees require little pruning, bear fruit abundantly, and the crops are more quickly gathered, and consequently at less cost than when tall ladders have to be used. The trees are not fancifully trained garden trees, but useful fruit producers, easily managed. Great care is taken in working varieties on appropriate stocks. The growth of strong Apples for instance is subdued and fruitfulness induced by grafting on Nonesuch stocks, weaker growers being established on either the broad-leaved Paradise or the free stock according to relative suitability. The uniformity in growth in the fruiting plantations is very noticeable, and these arranged on the plan suggested, profitable. Small bush fruits are grown between the larger trees.

There is a very great deal more to see at Sawbridgeworth than is here narrated, including beautiful paintings of fruit by Miss May Rivers. Some of these have been admired by the Fruit Committee of the Royal Horticultural Society, and others will not presumably always remain in the portfolios of the artist. An example of the talents of this young lady in another direction ought also to be seen in the Hall in Westminster.—FRUITERER.

## HARDY FLOWER NOTES.

AUGUST was ushered in by heavy showers alternating with bright sunshine. Welcome is the change to the lover of flowers, but less welcome is it to the haymaker. The good soaking the thirsty earth has now received came too late for many things, especially for dwarf and other annuals planted over bulbs. These have never become properly established, and their welcome brightness in the garden is missed at this time. Attached as we are to hardy perennials, it is what in other pursuits would be called bigotry not to avail ourselves of the use of these short-lived beauties in covering some bare spot which forms the couch on which Crocuses or Snowdrops are enjoying the summer's repose. Still, whatever the weather may be, the hardy plant garden unfolds some object of interest. *Lilium candidum*, the Madonna Lily, is not yet quite past, and looking upon its purity of colour and its noble habit one can surely feel touched with some of the passion with which the liliophilist regards his favourite flower. We hardy plantmen have too many attachments to make us fitting partisans. We are subjects of a polyarchy, and thus I must leave to another pen to cross swords with the champions of the Rose in the contest for regal honours. The claims of the Rose have been ably urged by "A. C." in a recent issue of the Journal, that some lover of the Lily might well follow suit, apart from Mr. Hepworth's very practical paper a fortnight ago. A word or two on the subject may, however, not be out of place. The rivalry is of old date, for, according to Ellacombe's "Plant Lore of Shakespeare," which may well be studied for information as to this, Walter de Bibbesworth sung of it in the thirteenth century; and while Cowper seems to waver in his opinions, Spenser in his "Faerie Queene" speaks of it as—

"The Lily, lady of the flowering field."

While our greatest English bard (Shakespeare), while speaking of the Rose more frequently perhaps than any other flower, says of the Lily—

"Like the Lily,  
That once was mistress of the field and flourished,  
I'll hang my head and perish."

—(*Henry VIII.*, act iii., sc. 5, 61.)

It will thus be seen that this flower has powerful support in its pretensions, but I cannot at present follow the question further, but would recommend those interested to study Canon Ellacombe's work, which I have often been indebted to, and which will be found a perfect storehouse of information relating to many flowers.

If the poets of old thus spoke of the beautiful—nay exquisite—Madonna Lily, what would they have said of the best forms of *Lilium auratum* or of the noble giganteum? The latter has surely received a most unfortunate specific name. It seems inseparably associated with the idea of clumsiness and ungainliness of form, and neither of these defects can be alleged against



this Lily. The large, glossy, heart-shaped leaves, looking at times as if they had been covered with some special polish or varnish of Flora's handiwork, are objects of beauty whenever seen in health, while the tall leafy stem surmounted by the noble trumpet-shaped flowers is most graceful, and one is tempted to apply to the plant an imperial title. I flowered it last season, but my bulbs have not been large enough to flower this year. This Lily has suffered considerably in this neighbourhood from the late spring frosts. In some gardens the foliage has been nearly destroyed, but my plants, which are in the angle of a hedge protecting them from the north and east, have suffered very little. I have never given my plants the slightest protection. *L. candidum* has done much better this year than last, when many plants never opened their buds at all. I must say, however, that I am not very successful with this flower, which does well in a small garden close at hand. There is still some disease to be seen among the plants, but it is not nearly so virulent as in former years.

Several of the *Verbascums* seem to be coming into favour again. *V. Thapsus*, the Great Mullein, known also in some places as Jupiter's Staff, is plentiful along the coast in this locality, where I have heard it called Aaron's Rod and Shepherd's Gourd. I have a much superior variety in my garden, closely resembling the type, but branching near the top of the stem. I saw this in the Edinburgh Botanic Gardens last year, but I had not the opportunity of ascertaining its name. I afterwards saw it in Dumbartonshire in the garden of Mr. James Lindsay of Alexandria, who kindly gave me a plant which he informed me was grown in Edinburgh as *V. Thapsus compacta*. It is, of course, only a biennial, but I hope it may establish itself with me, as it has been very showy for a long time, and forms a stately object, having attained, in a dry border, a height of 6 feet. The yellow flowers are of a good size. *V. phoeniceum*, a true perennial, is fairly well known, and hybrids of this of various shades from white to purple can now be obtained. It is a fair border plant, but after it has been in bloom for a time becomes a little unsightly from the number of seed pods on the lower part of the stems. It will be found better to cut off the stems after, say, half of the flowers are past. A succession of stems will be produced and the flowering season thus prolonged. I saw a very good yellow Mullein some days ago which I was unable to identify. It was a neat compact plant, about 3 feet high, with green leaves and large yellow flowers, not much inferior to those of *Celsia cretica*. The finest I have seen was a white one, grown as *V. variegatum*—a name which I have been unable to discover anywhere. It seemed by far the choicest of the genus, and was of good, compact habit, and about 2½ feet in height. I hope to be able to obtain a plant for another season, and may then be able to ascertain the true name.

It is always interesting to notice the names of the herbaceous plants exhibited at the meetings of the Royal Horticultural Society and the various flower shows, and among these I observed that *Crucianella stylosa* was exhibited recently by a well-known firm. This long-styled Crosswort is very pretty, and the projecting styles from which it derives its specific name are extremely prominent, and add much to the beauty of the pale rose or pink flowers which are produced in dense terminal heads. The leaves, which are arranged in whorls of eight or nine, are produced on stems from 9 to 12 inches in length. The stems are procumbent, and, like the leaves, are covered with stiff hairs. When out of flower this *Crucianella* bears some resemblance to the common Woodruff, and is frequently mistaken for this by the casual observer. Indeed, a plant I once gave to a friend was mistaken for this by that much-abused personage, the jobbing gardener, and was removed by him to a shady position, as being best suited to the plant. *C. stylosa* prefers a sunny position, and does best in rather light soil. It is not often met with in this locality; indeed, I have seen none near here with the exception of plants I have given from my stock, which I raised from seed some five years ago. This *Crucianella* has, like most other flowers, one or two drawbacks. The first is, its habit of running under stones and encroaching on other plants; and the second, the peculiar and rather unpleasant smell of the roots. This odour seems also to proceed from the leaves and stems towards evening and after rain. On one of my rockeries, which is near the garden gate, this peculiar smell, closely akin to that of the roots of most of the *Acacias*, has been observed by visitors, who were unable to account for its presence. It has no other defects with me, and is perfectly hardy here, although a native of rocky places in Persia and some parts of the Caucasus. Notwithstanding the defects noticed above, it is well worth growing, and is one of the prettiest plants in the natural order of *Stellates* (*Galiaceæ*) to which it belongs, and the lengthened period over which it blooms is an additional recommendation. It begins with me in June, and flowers till well into September. There are several other plants of the genus which are classed as hardy herbaceous, but I

have not seen any others, nor have I seen them named in any catalogues.

The yellow flowered shrubby *Linums* frequently bear a bad character as to hardiness, and they are thus too seldom met with in gardens. Although I believe my garden to be situated in a favoured spot so far as mild winters and pure air are concerned, I have been much struck with the way in which my plants of *L. flavum* have survived the severe weather of the past winter. Even young seedlings not an inch high and totally unprotected started in spring as fresh as ever, and older plants were quite uninjured, and are now flowering freely. This pretty yellow Flax is well worth growing in the border or on rockwork, the glaucous character of the foliage adding much to the attraction of the bright yellow flowers. The leaves, which are acute, narrowly lance-shaped, glaucous, and thickish, are smooth and stalkless. The flowers are at their best in the morning, are produced in leafy corymbs, and appear in June, July, and August. There is another species, *L. campanulatum*, which grows about the same height (1 foot), and is distinguished by the more campanulate shape of the flowers and less glaucous appearance of the leaves. This with some others were grouped by De Candolle under the name of *L. glandulosum*, *L. flavum* is a native of mountainous places in Germany and Switzerland, and is said to be plentiful by the sides of hedges and among shrubs. It was introduced from Austria in 1793. *L. flavum* ripens seed freely, and may be increased readily by this means—viz., division in autumn or by cuttings.

Its pretty little congener, *L. alpinum*, I have been less successful with, as it has failed to flower with me this season. I am inclined to think it has suffered from lack of moisture, and purpose transferring it to a new rockery I have at present in course of construction, and on which I shall be better able to suit the requirements of many of my flowers. Last year it flowered very well, which strengthens my opinion that insufficient moisture has made me unsuccessful this season. It is a very pleasing little flower, much resembling in general appearance the better known *L. perenne*, but much smaller in all its parts. It grows only to 6 or 8 inches in height, and has exquisite little blue flowers of the most pleasing tone. These are freely produced on the very slender stems in July and part of August. I do not know that I can describe the plant in better terms than as a miniature *L. perenne*, with more awl-shaped leaves, and the flowers of a slightly different shade. So far as I have seen it likes a light sandy moist soil. *L. alpinum* is a native of most of the mountainous parts of Europe, and was introduced in 1739. It is increased by seeds or division. There is also a white variety, which seems far from common. Even at the risk of speaking of things which are "common," I must mention our native *L. perenne*, which is not nearly often enough met with. A good plant I saw the other day brought to my recollection some lines on "Flax Flowers" by Margaret Deland, which appeared in "Harper's Magazine" for October, 1888:—

"Blue as heaven, light as air,  
All their slender stems can bear."

"Nodding, swaying, as they float,  
Each one like a restless boat."

"One would think they'd anchored there,  
Just to wait till winds were fair.  
On their stems they tug and strain,  
Longing to be off again."

But now reluctantly I must lay down my pen, for as lovers are said never to weary of praising the objects of their admiration, so those who seek "the purest of human pleasures" tire not of speaking of their flowers.—S. ARNOTT.

## HOP GROWING IN COLORADO.

It has been well said that Colorado very much resembles the enterprising storekeeper who placed a notice on the outside of his establishment as follows:—"If you do not see in the window what you require, please come inside and ask for it, as I keep it in stock." Within the last ten years, by means of artificial irrigation and practical cultivation, Colorado has come rapidly to the front as a first-class farming and fruit growing State. Year after year the great development and phenomenal results of field and orchard and garden have astonished even citizens of Colorado, and are not by any means realised by people at a distance. I came to Denver from Manchester, England, nearly eight years ago, during which time I have endeavoured to keep informed on the details of the annual development of the State; but notwithstanding all efforts to keep track of what was going on, last week furnished me with a



genuine surprise in the discovery of a Hop garden, thirty acres in extent, within two and a half miles of the city limits of Denver, in a district which is generally regarded as dry Cactus land, and which in its natural state an English farmer, in his inexperience of local conditions and possibilities, would decline to purchase at a shilling an acre.

On Saturday, 18th July, a party of Denver citizens, including myself, visited the Hop garden in question, and as you have many readers in the Hop growing districts of England, the following account of what we learned and actually saw will probably be interesting to them. Driving out towards the north end of the city we passed the new workshops, covering some acres, of the Union Pacific Railroad Company, and the works of the Omaha and Grant Smelting and Refining Company (which turn out annually over four millions (£4,000,000) sterling of gold, silver, copper, and lead), and emerged into a flat, treeless, undulating plain country, dotted over with "dairy ranches," or, as you would say in England, "milk farms," and soon came in sight of the Hop garden, a unique oasis of tall green columns, the beau ideal of health and vigorous growth, and looking as if a bit of Kent had floated west and lodged here. The owner of the garden is a Mr. Van Buren, who has had considerable experience in Hop growing in the State of New York. He obtained his first purchase of this land at a ridiculously low figure five years ago, trading a horse and buggy for twenty acres of it (the then owner thinking the land no good), and four years ago planted twelve acres in Hop vines obtained from the State of New York, consisting of three varieties—viz., the Bavarian, the English Cluster, and the Humphries.

His methods of planting and cultivation are as follows. The land having been deeply and thoroughly ploughed, the Vines are planted 7 feet apart, so as to admit of future cultivation by means of horse and "cultivator," the garden being kept strictly free from weeds. The next operation is "grubbing," i.e., taking away from the Vines the runners or suckers which are used for planting new land. He usually puts two poles and several plants to a hill. The poles are from 16 feet to 25 feet high, and are obtained from the foot hills of the Rocky Mountains, about twenty miles from Denver, being brought by railroad. Many of the Vines reach the tops of the highest poles and wave in the air a number of feet beyond. In April a staff of men and women are employed to train the Vines around the poles and to trim off all Vines that are not going up the poles. This work continues for about a month. After this is over there is nothing to do but to cultivate and irrigate the ground and keep the weeds down, experience teaching that continuous and thorough cultivation is more important even than irrigation. The picking generally commences about the middle or end of August, when any number of pickers can be obtained from Denver, the rate of wages being 1s. 3d. per box of 7 bushels and board, a good hand being able to pick from three to five boxes per day. On the premises is a drying kiln where the Hops are cured and afterwards pressed and marketed.

Mr. Van Buren says that from the 12 acres of Hop vines planted in 1887 he obtained in 1888 about 1000 lbs. of Hops, which sold for 1s. 3d. per lb.; in 1889 about 3000 lbs., which sold for 8d. per lb.; in 1890 (a very dry season) about 8000 lbs., which sold for 1s. 5½d. per lb.; while this year he expects to obtain from the same 12 acres about 2000 lbs. per acre. From an adjoining 10 acres more recently planted from 500 lbs. to 600 lbs. per acre; in addition to which he has another tract of 8 acres planted last year, which he does not reckon on particularly. All this land is what is called here "under ditch"—that is, it lies below an irrigating canal, from which water is obtained for irrigation purposes. The rainfall near Denver is only 14 inches per annum, and we have over 300 sunny days every year. The supply of irrigating water from this particular ditch in a dry season is not absolutely certain, so Mr. Van Buren sunk an artesian well, which at 757 feet struck a large body of water. The season of 1890 proving dry, he attached a pumping engine to this well, and from the 27th June, 1890, when the engine was in place, he pumped night and day for thirty days without any appreciable effect on the subterranean supply of water, and so saved his Hop crop as above shown. This year there has been no water difficulty, and as every year's cultivation and irrigation lessens the quantity of water required, his artesian well can now water the whole garden sufficiently were there no water in the canal. He reckons that it costs from 4d. to 5d. per lb. to grow the Hops. The advantages for Hop growing in the vicinity of Denver may be summarised as follows:—The four breweries of Denver, according to official statistics, turn out 150,000 barrels of beer per annum, while nearly twenty other breweries in the State turn out at least 35,000 barrels per annum, so that the consumption of Hops in Colorado breweries is at the very least already considerably over 200,000 lbs. per annum. There is, therefore, already a good home market, and the

brewers give the preference to locally grown Barley and Hops, in order to encourage home enterprises.

The soil of Colorado and in the neighbourhood of Denver is especially rich and deep, only needing water. The dry sunny climate is especially adapted to the growth of Hops by irrigation, mildew from damp being impossible and Hop insect pests unknown. With almost continuous sunshine above and the ability by means of artificial irrigation to keep the roots and ground sufficiently moist the growth of plant life is reduced to a science and a certainty.

The proximity to Denver gives access to any amount of fertiliser in the shape of stable, shippin, and other manures, which can be obtained gratis for hauling away. Then again the system of irrigation in itself is a continuous fertilisation, on the same principle that the annual overflow of the Nile fertilises Lower Egypt. The proximity to Denver also gives any amount of cheap labour at "training" and "picking" seasons.

Hops are also cultivated in America in parts of New England, New York, Oregon, Washington, California, and other States; but in several of them insect pests have made their appearance, and in others occasional damp weather results in mildew. Hops have been successfully grown at various points in Colorado, but the particulars of Mr. Van Buren's Hop garden near Denver, as above given, clearly demonstrate that practical experienced men can develop Hop culture in the neighbourhood of Denver until it becomes quite an important local industry, which will not only supply the breweries of Colorado with all the Hops they need, but finally result in a considerable export business to the great brewery centres of St. Louis, Milwaukee, and other cities. As far as present experience goes there seems no reason why Colorado should not become as famous for Hops as Kent. If you have among your readers practical Hop growers willing or wishful to try a new country they would do well to personally investigate the advantages of Colorado as above demonstrated.—THOMAS TONGE.

## SIXTY YEARS OF HORTICULTURAL PROGRESS.

(1760-1820).

(Continued from page 464, last Vol.)

THERE was a nobleman of the last century who used jocosely to say to his friends that he knew the exact length of an old woman's conscience. One of several, employed in his garden as weeder, came to his lordship one morning, it seems, when he was strolling about his grounds, and said, "My Lord, there is a roll of red tape in one of the garden sheds, may I have some of it?" "Certainly, my good woman," he replied, "take enough in conscience," employing a familiar expression then. Subsequently he was told that the head gardener wanted some of this tape, and as he knew how much had been in the roll, he measured it to see what was left, and found the old woman had taken the greater part, about 10 yards. At that time tape was occasionally to be seen in gardens, being employed for tying up shrubs or as a support for climbers, and the anecdote also reminds us that in the days of George III. a great want of order or method prevailed amongst gardeners with regard to tools and appliances. Sheds existed here and there in gardens of some size, each having a miscellaneous assortment of articles, and anything that was particularly wanted was often difficult to find. Loudon mentions as one of the improvements slowly spreading, that proper tool-rooms were constructed by some where each article was kept in suitable condition for use, in labelled compartments, with drawers for the storage of such things as needed to be kept clean or dry. This author refers also to the circumstance that lodges or apartments for under gardeners were often built amongst hothouses or against a wall or shed. Cooking, eating, reading, and sleeping frequently had to be done in one room, stuffy and hot, or else cold and damp. Many gardeners have their grievances now, no doubt, but they have little reason to envy those who worked in the "good old" times. We should rather like to know whether the "concealed alarm," as they called it, worked well in the gardens or orchards, where it was tried as a precaution against trespassers. This was, of course, before the application of electricity to transmission of sound or motion. Some gentlemen had a system of wires arranged communicating to a room in which the movement of any wire would strike a gong, drop a fulminating bead, or in some other way give notice of an intruder. This singular mode of protecting enclosures seems to have been too expensive for general adoption, and had fallen out of use by the end of last century. Happily obsolete, also, is the mantrap, which was a not uncommon but cruel means of punishing trespassers, and sometimes placed without warning being given. Both kinds—that resembling a rat trap, and the humane form, which did not crush the leg—were, like the spring



guns, formerly regarded as articles quite justifiable, and there are persons still living who can remember seeing them frequently in London market gardens.

A favourite form of trowel in the reign of George III. was in the form of a spatula, the edges being turned up. Its size was larger than that of the garden trowel now mostly used. This was substituted sometimes for the hoe in loosening weeds for removal, and by its aid shrubs or young trees were transplanted. The draw hoe seems to have been generally preferred at that time to the thrust or Dutch hoe, especially that one with blades like a half-circle, which served for drilling, often also made double, the broad piece forming the other half being effective in removing weeds. About 1770 the wheel hoe is said to have been introduced from Holland, where garden walks were kept in order by its means. It was a combination of the draw and thrust hoes, a cumbrous affair, requiring two men to work it, and it did not find favour with English gardeners, nor did the French combination of the hoe and rake, at opposite ends of one handle, intended for dressing borders. Saul's fruit gatherer was also, I believe, the invention of a native of France. A pair of cutters were mounted on the top of a pole, having a basket attached; these had a lever by which they were worked, and which could be shifted to any part of the pole. The pole itself was sometimes made in joints on the fishing-rod principle. Lane, shortly after, brought out his apparatus for the same purpose. His pole had to be lifted up and down with each fruit picked. This was made with forceps at the extremity, which were moved by a trigger and lined with soft leather. The fastidious taste of the upper classes led to the introduction of an implement called the berry gatherer moved by the hand like a pair of scissors, and by which Strawberries or Raspberries could be gathered without any contact with the fingers of the person engaged in the work—a method of picking which would certainly not pay in our time. And an occasional sight in a gentleman's garden was rows of Strawberry plants in pots meant to be brought to the table thus, so that guests might pick the fruit for themselves. One of the notable events marking the early years of George the Third's reign was the spread of nurseries on the southern or Surrey side of the metropolis, where formerly there had been but few, and distant from each other. Many of their proprietors were intelligent men skilled in floriculture, willing and able to impart information to others. There was Rutter of Wandsworth, and his friend Carter of Battersea (the latter an ancestor of men well-known in the present reign) who brought out between them, in 1767, a book somewhat oddly called "Modern Eden," and intended to give particulars on all points connected with the production of flowers, fruit, and vegetables. Then there was Michelson, no author, but a great conversationist, who reclaimed some waste land at Kennington, now familiar as the Oval, and cultivated it many years, living to become a centenarian. One of his men, Denyer, afterwards started an important nursery at Brixton. Walworth was an attraction to visitors because Maddock's and Griffin's establishments were rich in bulbs. This Maddock took pen in hand, and at a later period published a "Florist's Directory," illustrated, descriptive of flowers, and methods of culture. Under Curtis and Milliken, who succeeded him, the Walworth nursery became even more renowned. Chandler of Vauxhall was not an author, but he subsequently did more than any other Georgian gardener to make the Camellia popular, and produced himself a number of varieties. At Camberwell, not far distant, was the celebrated Arboretum of Buchanan, to which people sent from long distances to obtain specimens of exotic trees and shrubs.

To us, at this advanced date of the nineteenth century, it seems a thing scarcely supposable that a volume of poetry should have sufficient power over the public mind to alter the taste in matters of garden arrangement, yet such was, so we are assured, the effect of William Mason's "English Garden," the first book of which came out in 1772. (He is to be distinguished from George Mason, also an eighteenth century man, who wrote about 1768 an essay upon design in gardening, though he was not himself one specially qualified to discourse upon this topic). A death blow was given to the mechanical and monotonous style of laying out gardens and parks, which had made Brown and his compeers famous in their day, and the principle of introducing as much variety as your space allows, and that of following Nature, without imitating her too closely, were gradually recognised, and have ever since then been more or less put into practice. With the poetical work of Mason we must couple Wheatley's "Observations on Modern Gardening" as another book of high importance, published one year earlier. It was soon very highly commended by continental gardeners, having been translated into French. Sir W. Chambers and others had already called attention to the Oriental styles of gardening and their defects, insisting on the advantages of art judiciously employed in planning and arranging, while artificiality is avoided. There would have been much communication between English and

continental gardeners upon this and other interesting subjects had it not been for the unsettled state of France on the verge of revolution.—J. R. S. C.

#### CYPRIPEDIUM ALFRED.

HYBRID CYPRIPEDIUMS are now numerous, but that of which a flower is represented in fig. 23 is distinct and attractive, though not one of the most showy. It is a hybrid from *C. laevigatum* and *C. venustum*, the flowers neat and remarkable for the colouring, the streaks and spots being clearly defined. The ovate dorsal sepal is white, veined with green, the lower sepals similar. The petals are broad and twisted, spotted and tipped with reddish brown, and edged with dark hairs, the lip yellowish green. It was shown by Drewett O. Drewett, Esq., Riding-mill-on-Tyne (gardener, Mr. H. A. Keeling) at the Royal Horticultural Society's meeting on August 26th, 1890, when an award of merit was



FIG. 23.—HYBRID CYPRIPEDIUM ALFRED.

granted for it. At the same meeting Mr. Drewett also had two other hybrid Cypripediums, one named Constance, from *C. Curtisii* and *C. Stonei*, the other Alice, from *C. Spicerianum* and *C. Stonei*.

#### A RUN INTO SOUTH WALES.

THE Cardiff Conference and Show last week afforded an opportunity for a run through a very pleasant district of England into one of the busiest parts of South Wales; a glimpse of agreeable scenery, an inspection of a fine garden, and the privilege of adding a few more to a wide circle of horticultural friends and acquaintances, constituting full compensation for the fatigue of a hurried railway journey. Some of my co-workers in the British Fruit Growers' Association had wisely taken advantage of their chance to travel Cardiff way the previous night; but this I was unable to do, and therefore an early start on Wednesday morning was necessitated, especially as I had decided to make

#### A CALL BY THE WAY.

Reading was the first stage, and here I found I could spend an hour without any material loss at the other end of the journey, so a scamper through Messrs. Sutton & Sons' nurseries and trial grounds was indulged in as a preliminary. Every season, almost every month, has its special horticultural attractions at Reading. Just now the Gloxinias present a magnificent display, several large houses being filled with vigorous young plants, bearing richly coloured, varied, and delicately tinted flowers in surprising profusion, with well-developed pot-concealing foliage. So much prolonged attention has been paid to the improvement of the Reading strain of Gloxinias that it is difficult to see what remains to be accomplished. The flowers are large, bold, well formed, of great substance, borne erect upon stout stalks, which enable their



floral beauties to be readily seen. In some the colour is solid from margin to centre, in others a clear white margin throws up the colour still more boldly, while delicately dotted or netted varieties are also seen in due proportion, the last-named constituting a very distinct and elegant strain. Perhaps the finest of all is a pure white variety named *Her Majesty*, which has already secured several certificates, and is in all respects unique. Then the *Achimenes*, the *Gesneras*, the *Tuberous Begonias*, the healthy *Cyclamens* advancing for another season's display, and many other attractions in succession receive hurried attention.

Out of doors, both in the nurseries and trial grounds, are breadths of all the most useful annuals and hardy plants raised from seed, some beds of seedling *Carnations* and *Picotees* being remarkable for the large percentage of well-formed double varieties of excellent colours, and the profusion of flowers, plants about eighteen months old bearing hundreds of bright and fragrant blooms invaluable for cutting purposes. The trials of *Asters* will afford much interest in a week or two, as also will the *Tomatoes*, of which large numbers are being tested side by side. Half a day could have been advantageously spent in the admirable *Suttonian* establishment, but an hour had to suffice, and by the kindly assistance of Mr. Leonard Sutton the station was reached in good time for the Cardiff train, and I arrived at my destination in a little over four hours' run, via Stroud, Gloucester, Chepstow, and Newport.

#### THE CONFERENCE.

The *Sophia Gardens* is a capital place for a horticultural exhibition, its dense fresh lawns and abundant trees adapting it admirably for such a purpose, and most generously is the local Society treated in having so fine a site placed at their disposal. Fortunately the weather favoured the gathering, and visitors assembled in considerable numbers. The dozen or so tents devoted to the Show were soon filled with competitors' friends and the general public, the spacious tent devoted to the Conference being also crowded when the proceedings commenced. With much kind consideration the Marquess of Bute had consented to preside, and his presence undoubtedly contributed materially to the success of the meeting. Mr. Gordon gave a short address on the past and present condition of fruit culture in the United Kingdom, and in doing so directed attention to the enormous influence for good that had been exercised by the British Fruit Growers' Association since its foundation in 1888. As proved by the Agricultural Returns the area under orchards had since that year increased so rapidly that the total acreage of land devoted to fruit at the end of last year exceeded that of 1888 by over 12,000 acres. He did not, however, attach so much importance to the increase in the acreage as to the improvements that had been effected both in the selection of sites and varieties and in the preparation of the land, because it was only by adopting the best possible methods that fruit culture could be made profitable. This point the Association had from the first kept to the front, and had at all times carefully avoided the extravagant estimates that had been given by some speakers. The Association endeavours to enforce the view that fruit culture would, if properly carried on, give a good return for the outlay both in planting and management. The means by which it is seeking to disseminate trustworthy information was briefly described, and it was pointed out that in addition to holding conferences, arrangements had been made for giving lectures at meetings of horticultural and other societies, the staff of lecturers comprising about thirty of the most eminent fruit growers in the United Kingdom. A plan had also been prepared by which it is hoped that fruit culture will occupy a prominent position in the schemes of technical education now being carried out under the direction of the various County Councils. In conclusion, it was pointed out that many districts in South Wales were highly favourable to the production of hardy fruits, and although in the gardens of Cardiff Castle hardy fruits were grown in a manner that was not surpassed in the United Kingdom, good orchards were practically unknown in the vale of Glamorgan.

Then came worthy Mr. Pettigrew with the practical remarks upon fruit culture in South Wales which have already been read with interest by thousands of cultivators. Probably, however, the reader was afforded more gratification by the close attention with which the Chairman followed this narration of successful experience, and the applause in which he also heartily joined. It was a subject upon which Mr. Pettigrew could speak with the greatest authority, and the proofs of all he said concerning fruit culture were within a few hundred yards of the Conference tent, almost in the midst of a busy city.

Mr. Baillie's address on fruit growing as an industry was an eloquent dissertation upon the pecuniary and social advantages arising from judiciously extended fruit culture, and it is needless to say that it was admirably delivered. It was suggestive and

clear, just what was desired and expected from him. It was unfortunate that the time did not permit of extended discussion, for it was evident that much of a useful character could have been communicated by some of those present, and this is exactly what is required. It is only by a comparison of experiences and opinions that the best way can be found, and in every district there are special obstacles as well as special facilities that demand careful consideration before embarking extensively upon fruit tree planting.

#### THE SHOW.

A word or two must now be devoted to the Show itself, which far exceeded the expectations of most visitors, and it was gratifying to learn that the exhibits exceeded those of last year by nearly 100 per cent. It is customary at provincial and metropolitan horticultural shows to crowd all the exhibits into two or three tents, placed as near together as possible, and the visitors are often kept in the tents until a complete circuit has been made. A different order of things prevails at Cardiff, and it has much in its favour. About a dozen tents were employed, each one being devoted to special classes or exhibits. The tents were also placed some distance apart, the visitors were not crowded into so small a space, and were thus enabled to inspect the Show with much more comfort than is the rule at popular gatherings of this kind.

The quality of the exhibits throughout was very satisfactory, plants, flowers, fruit, and vegetables being all well represented. Fruit was good, the Grapes especially so, and excellent bunches were shown by Mr. G. Gill, gardener to W. M. Franklin, Esq., St. Helens (six varieties); Mr. Silk (Muscat of Alexandria, Gros Maroc, and Golden Queen); Mr. A. Pettigrew (Foster's Seedling), and Mr. J. Aye, Clifton (Black Hamburg). In the Melon classes Mr. Pettigrew was victorious, as he also was with Apples and Pears; Mr. Muir, Margam Park Gardens, being the best exhibitor of Peaches (Barrington).

In the plant classes groups were not very well shown, but specimens were fine, Mr. J. Lockyer, gardener to J. C. Hanbury, Esq., Pontypool, having twelve grand plants in flower, defeating Mr. J. Cypher of Cheltenham, who, however, had the best fine-foliaged plants and Orchids. Pelargoniums, Fuchsias, and other softwooded plants were well shown, as were also cut flowers and table decorations, which occupied several tents, and formed a very interesting portion of the display. Amongst the vegetables Mr. Muir exhibited well, and took the first place for a collection of nine kinds with excellent samples in his best style. The non-competing exhibits also occupied considerable space. Messrs. B. S. Williams & Son, Upper Holloway, had a fine group of stove and greenhouse plants. Messrs. Clibran & Son had a capital group of hardy flowers, with fine examples of their new *Tropæolums* Mrs. Clibran (bright yellow) and Gem (very dark maroon). Mr. Pettigrew had forty varieties of Apples and thirty varieties of Pears; Mr. J. Watkins, Hereford, had fifty dishes of Gooseberries and Apples; Mr. Ralph Crossling, Penarth, had a group of plants; Messrs. Dobbie & Co, Rothesay, a collection of Marigolds and Violas; and Messrs. Perkins & Son, Coventry, showed several handsome bouquets. This is only a brief review of a really creditable Exhibition, and it only remains to be said that the Chairman (Mr. Lewis), the Vice-Chairman (Mr. Pettigrew), the Secretaries (Messrs. Blackmore and Gillett), with several members of the Committee assisted materially in promoting the success of the Show, while they certainly contributed to the pleasure of the members of the British Fruit Growers' Association who were enabled to be present at the Show and meeting.

#### CARDIFF CASTLE GARDENS.

The members of the Association are busy men, and the majority hurried away to other duties immediately after the conclusion of the Conference. A few, however, remained, and on the following day had the pleasure of inspecting the gardens at Cardiff Castle, a treat which would alone have repaid the trouble of so long a journey. Able writers have made readers of this Journal familiar with the great establishment over which Mr. Pettigrew presides, and it is unnecessary to enter upon a description; but it must be said that not one word too much has been written concerning the examples of cultural skill there found. I was prepared for something exceptional in the fruit trees, but I did not expect to see such marvellously healthy specimens of Apples and Pears, loaded with fine fruits from the tips of their branches to within a few inches of the ground. Trees eighteen or twenty years old 20 to 30 feet high, and forming avenues as regular and perfect in form as if cast in one mould, cannot be seen every day; but there they are, an all-convincing proof of what can be accomplished in hardy fruit culture even in a town garden. They have been planted under Mr. Pettigrew's superintendence, he has watched them grow into bearing and profit, and the tons of fruit they have produced have afforded an



ample return for the labour and expense they have required. But it is not only hardy fruits that are grown well at Cardiff Castle, Melons under glass are equally surprising in their way, the crops of fruits obtained from individual plants far exceeding the conventional numbers. A dozen or more fine specimens on one plant are frequently secured. Grapes, too, are admirably grown, and with Peaches and miscellaneous useful plants fill numerous houses, good order and the best culture prevailing throughout. It is in fact a grand school for young gardeners.

#### THE CASTLE COCH VINEYARDS.

A delightful drive of some five miles to the Castle Coch Vineyard concluded my horticultural experiences of Cardiff, and with a few words respecting it I must close these notes. The weather was warm, and we could appreciate the wisdom of the choice made when the elevated slope was reached, above which stands Castle Coch itself, looking across a beautiful panorama, with the Bristol Channel gleaming in the distance. It was like a sub-tropical climate, the soil was quite perceptibly warm, and a few weeks clear weather will effect a great change in the abundant Grapes which are now developing. The Vines are planted in rows 3 feet apart, are cut back annually, and the shoots are tied to stout stakes in the continental fashion. The Vines have fine well developed leathery deep green foliage, and evidently have a soil that suits them, for the growth is stout and strong. The yield of Grapes and the quality of the fruit necessarily vary according to the season, but that excellent wine is produced I had the opportunity of testing. Many varieties have been tried, but a large proportion of the ten thousand Vines now consist of one variety, Gamai Noir, with small black berries, which is grown in the French wine districts, but is not cultivated in gardens here. This vineyard is extremely interesting, and though it may be regarded as an experiment conducted under favourable circumstances yet there are no doubt many similar sites where equal success could be achieved.

Reluctantly several kindly invitations had to be declined, including one from Mr. Muir at Margam, and with an invigorating little sea trip from Cardiff to Weston-super-Mare our homeward journey was commenced in preparation for a longer trip in other lands.—LEWIS CASTLE.



**EVENTS OF THE WEEK.**—The Fruit, Floral, and Orchid Committees of the Royal Horticultural Society will meet at the Drill Hall, James Street, Victoria Street, S.W., on Tuesday, August 25th, when there will be an exhibition of Gladioli, Orchids, Fruit, &c., and a lecture at 3 P.M. by the Rev. H. H. D'Ombraim, M.A., on "Gladioli." The Newcastle-on-Tyne Autumn Show will take place on August 26th, 27th, and 28th. On Monday and Thursday next, August 24th and 27th, Messrs. Protheroe & Morris will hold sales of bulbs at Cheapside. A sale of Orchids from Mr. F. Sander will also take place in the same rooms on August 21st.

— **MR. D. T. FISH.**—We are informed on good authority that Mr. D. T. Fish, who has been gardener at Hardwicke House, Bury St. Edmunds, for upwards of thirty years, will relinquish his charge during the ensuing autumn. T. M. Gibson Cullum, Esq., is the present owner of Hardwicke, and Mr. Fish is a member of the Town Council of Bury St. Edmunds, the only instance, so far as we know, of a gardener in service being elected to a position of that nature. He is a brother of the late Mr. Robert Fish, who was for some years a shining light on the staff of the *Journal of Horticulture*. Mr. D. T. Fish will not, we understand, seek another situation as a private gardener.

— **THE WEATHER IN THE METROPOLITAN DISTRICT** has been somewhat finer for the greater part of the past week, and this has been general in the northern and western counties, where harvesting is proceeding rapidly. Rain has, however, fallen heavily on several days, and clear sunny weather would help fruit and other crops greatly.

— **GARDENING APPOINTMENT.**—Mr. Eldon Quantrell, late foreman at Porters Park, Shenley, has been appointed head gardener to Mrs. Holt, Waratah, Chislehurst.

— **SHREWSBURY SHOW.**—The Exhibition which opened at Shrewsbury on Wednesday is larger than ever. The entries numbered 2500, from cottagers 1500. The schedule comprised 189 classes. Good and in several cases generous prizes were provided, the aggregate amount in group class being no less than £62. The conditions were a group of miscellaneous plants, in or out of bloom, arranged in a space of 300 square feet. In this class the prizes are won by Mr. Peter Blair, Trentham Gardens; Mr. A. Webb, gardener to J. H. Sutton, Esq., Newark; Mr. Currey, gardener to Col. Pepper, Salisbury; and Mr. Roberts, gardener to C. H. Wright, Esq., Oswestry, in the order named. For sixteen stove and greenhouse plants, not less than four in flower, the prizes of £20, £15, and £10 are won by Mr. Finch, gardener to J. Marriott, Esq., Coventry, and Mr. J. Cypher of Cheltenham, who are equal firsts, Mr. Currey being third. In the cut flower section the principal class is for a collection of Dahlias, a silver medal and £5 as the first prize being awarded to Messrs. Jones and Sons, Shrewsbury. A silver medal and a similar money prize for a collection of Gladioli are also secured by Messrs. Kelway & Sons, Langport. With a collection of fruit (twelve dishes) Mr. J. H. Goodacre, Elvaston Castle Gardens, Derby, wins the £10 first prize, followed by Mr. R. Dawes, The Gardens, Temple Newsam, Leeds, and Mr. Bailey, gardener to W. Martin, Esq., Ledbury. The first prize for six bunches of Grapes (£10) is secured by Mr. T. Bannerman, gardener to Lord Bagot, Blithfield, Rugeley; the other prizewinners being Mr. J. Barber, gardener to W. Raynes, Esq., Rockferry, and Mr. W. Iggulden, Marston Gardens, Frome. The Show is a grand one all round.

— **THE CONFERENCE OF THE BRITISH FRUIT GROWERS' ASSOCIATION AT CARDIFF** on August 12th was held in conjunction with the local horticultural society's exhibition in the Sophia Gardens. A large tent was devoted to the Conference, which was largely attended, the Marquess of Bute presiding, and being supported by the Rev. G. A. Jones, Alderman Lewis (Deputy Mayor), Mr. T. F. Rivers, Mr. E. J. Baillie, F.L.S., of Chester, Mr. Blackmore (Secretary of the Cardiff Horticultural Society), Mr. G. Gordon, and Mr. Lewis Castle (Hon. Sec.). After a few words from the Chairman, Mr. Gordon gave a review of the work of the Association and the extension of fruit culture. Mr. A. Pettigrew then read an excellent paper on "Hardy Fruits for South Wales," and by Mr. E. J. Baillie with an address on "Fruit Culture as an Industry." Some discussion followed, in which several prominent local horticulturists took part, including Mr. W. J. Grant, and the business of a very successful meeting concluded with a hearty vote of thanks to the Marquess of Bute for presiding, proposed by Mr. Rivers and seconded by Alderman Lewis.

— **MR. C. M. MAJOR** of Croydon sends us an example of a **CURIOUS FREAK IN AN OPUNTIA**. The ovary of a previous flower has produced two other flowers near its apex, the ovaries of which are also developing. Instances of a similar character are occasionally seen in members of this family where leaves are absent, both flower and growth buds springing from the fascicles of spines all over the plant.

— **SAXIFRAGA MUSCOIDES PURPUREA** is excellent for the rockery. The growth is compact, the flowers are freely produced, and last so long that it deserves a place in the smallest collection of rockery plants. The flowers when first open are a bright rose, which pale considerably with age. The best time to increase the stock is after flowering, by division, planting in sandy soil, in a partly shaded situation it succeeds better than in the full sun.—M.

— **AT** the ordinary monthly meeting of the **BRIGHTON AND SUSSEX NEW HORTICULTURAL AND MUTUAL IMPROVEMENT SOCIETY**, held at the Imperial Hotel, on Thursday evening the 13th inst., twelve new members were proposed and admitted. The Sub-Committee appointed at a previous meeting submitted a schedule for a spring show next year, which was approved, and the dates fixed for the 5th and 6th April. Mr. J. Cheal then delivered a most interesting lecture on Conifers, referring to their history, the period of their introduction to this country, their value as timber trees or for the embellishment of our pleasure grounds, their comparative hardiness in this country, and other valuable information. A large number of specimens—sprays of many of the trees referred to—were exhibited in the room, and by the aid of two large maps the speaker succeeded in interesting his hearers for over an hour. Mr. Balchin, who presided, in moving a vote of thanks to Mr. Cheal, congratulated the members of the society on having amongst themselves one capable of handling a subject with such ability.



— MESSRS. FISHER & SHARPE, 172, Queen Victoria Street, London, E.C., send us some excellent samples of BAMBOOS FOR STAKING PURPOSES in all sizes, from 18 inches to 7 feet long, and proportionate thickness. They are adapted for supporting plants of all kinds, both in pots and in the open borders. They are very durable, light, yet strong, and have a good appearance.

— NICOTIANA AFFINIS.—Surely the truth is that this is simply a hardy annual. Years ago I raised a few plants from seed, and planted them out in light soil on a warm border. Since then, though I have never sown or planted any more, I have never been without them; they come up, evidently self-sown seedlings, here, there and everywhere. There is nothing perennial about them.—L. G., *Chester*.

— HARDINESS OF NICOTIANA AFFINIS AND TUBEROUS BEGONIAS.—Your correspondent, "W. I." in your impression of August 6th, states that the above Nicotiana withstood the winters of 1890 and 1891. It has lived through several winters at this place, as also have some Begonias. Their tubers are somewhat similar to Potatoes, which often pass through the winter unhurt. I believe all the Begonias would survive our winters if they are on well-drained beds and covered with cinder ashes. The Salvia patens will survive some winters, but the last one was too much for it.—J. PERKINS, *Thornham Hall*.

— A PROLIFIC CURRANT TREE.—I showed a Red Currant tree at Patching, Sussex. The tree measured 5 feet 6 inches through, 3 feet 6 inches high. Weight of Currants gathered from it, 17½ lbs. I think this a very good crop, and should like to hear your opinion of it.—H. BOWMAN. [We shall be glad to hear from correspondents who may happen to have weighed their crops how our correspondent's yield compares with their own. We have gathered a greater weight from bushes, both of Black and Red Currants.]

— MUSHROOM SPAWN IN OLD BEDS.—"A. W." writes:—"May I invite the experience of your readers on the following matter?—In clearing away some Mushroom beds I have found some spawn, which seems to me to be in splendid condition. I am about making up some more beds. Shall I be safe in using it for them with a chance of a good crop? I have cut many fine Mushrooms. The largest was 11 inches over, and weighed 1 lb. 9 ozs.; the next 1 lb. 5 ozs., 1 lb. 3 ozs., and many 1 lb. My beds have been down nine months, and I still get a few Mushrooms."—A. WYATT.

— FRUIT CROPS IN BEDFORDSHIRE.—Apples on old trees are half a crop, but on younger trees they are better, but still very small. Pears are fairly good, but very small. Most varieties of Plums are plentiful. Peaches on unprotected walls good average crop, the trees clean and healthy. The same remark applies to most fruit trees. Gooseberries, Raspberries, and Currants are good average crops; also Strawberries, but the early varieties suffered a good deal from the late frosts, and also from the very damp weather during the fruiting season. Walnuts are mostly good.—G. R. ALLIS, *Old Warden Park*.

— MODES OF CHRYSANTHEMUM CULTURE.—I was much obliged to Mr. Jameson for his kindly criticism of my paper. In answer to his query as to where free sandy loam is to be obtained near Hull, I can only reply that, when visiting a brother of mine a few years since, at that time resident near Brough, I was shown a very fine sample, and given to understand it was obtained in the neighbourhood, from the banks of the Humber. From this fact, and that of the Humber being a tidal river, I had formed the opinion that such was not difficult to obtain in the neighbourhood of Hull. If it is an error I thank Mr. Jameson for drawing attention to it. I fully agree with him that the question of benefit derived by the plants from salt at the roots is one deserving investigation and carefully conducted experiments.—W. K. W.

— THE WEATHER LAST MONTH.—July was changeable and unsettled, with many showers and thunder on the 6th, 7th, 8th, and 17th, but not one entire bright day all through the month; very bad weather for haymaking, and not much of it was carried at the end of the month. The wind was in a westerly direction twenty-seven days. Barometer, highest 30.38 on the 14th at noon; lowest 29.59 on the 30th at 9 A.M. Rain fell on sixteen days, the greatest daily fall being 0.56 on the 8th. Total for the month, 2.60 inches. Highest shade temperature was 80° on the 17th, lowest 41° on the 13th and 28th; lowest on the grass, 37° on the 28th. Mean maximum temperature, 67.87°; mean minimum, 49.93°. Mean temperature of the month, 58.91°. The garden spring ran 20 gallons per minute on the 31st.—W. H. DIVERS, *Ketton Hall Gardens, Stamford*.

— EARLY APPLES.—Mr. G. Bunyard sends us samples of the following early Apples for comparison:—Mr. Gladstone, rich crimson, angular, 2½ inches wide and high, flesh white, tender, juicy, excellent. Early Red Juneating (Margaret), more uniform in shape than the preceding, but not so highly coloured; and though sweet and tender, not on the whole quite so good. Tetofsky, yellow, slightly angular, 2 inches high and 2½ inches wide, flesh greenish white, firm, sweet, juicy, and pleasantly flavoured. Cardinal, also known as Peter the Great; fruits uniform, 2¾ inches wide, 2½ inches high, yellowish green on the shaded, flushed with crimson on the sun side, flesh firm, and fruits therefore heavy. An early cooking Apple of good promise, the tree being a healthy grower and free bearer.

— DAISIES ON LAWNS.—After using various means for years in trying to get rid of the Daisies on our lawn, including grubbing them up at much expense with the little tool provided for the purpose, I gave up the hope of ever exterminating them; but to encourage a better growth of herbage I made a thin sowing of White Clover, and over that, in early spring, a top-dressing of ground bones. To my surprise not a single Daisy has appeared this year, and the lawn is beautiful. I mentioned the fact to a friend of mine, and was amused to learn that, like myself, he had pursued the same course with like results. I think this experience is deserving of publication, and trust you will be of the same opinion.—A. Z.

— ASTER HARBINGER.—This is, I believe, one of Messrs. Sutton's introductions, and is, I should imagine, quite correctly named. It is only recently I have been privileged to make the acquaintance of the variety growing in a neighbour's garden, and to those by whom white Asters are required as early as possible in the summer the variety under notice should commend itself. The seeds in this instance were sown on March 30th in a frame with only a slight bottom heat from a partially spent hotbed. The seedlings grew sturdily, assisted as they were by cool surroundings, and were finally planted in a well manured and prepared border towards the end of May. There they grew vigorously after they were once established, and the first blooms were ready for cutting by the first week in July. The habit of the plants is extremely free and branching, every bloom being supported by a rather long stem, which is an advantage for cutting purposes. The flowers are a pure white and reflexed, like the Chrysanthemum flowered, but are larger. Considering how late Asters as a rule are this year, it must be readily understood how valuable Harbinger is for decorative work in a cut state or even in pots.—W. S.

— ERYNGIUM GIGANTEUM AND TELEKIA SPECIOSISSIMA.—The Eryngium named is one of the most striking plants in the herbaceous border at the present time. Its steel blue cone-like flowers show most conspicuously, and form a distinct contrast to such plants as Gaillardias, Campanulas, and Chrysanthemum segetum. It gives very little trouble in the way of propagating, for it seeds freely, and if the seedlings are taken care of they will grow into flowering plants by the second season. This Eryngium being of a biennial nature it is necessary to have young plants continually coming on to take the place of those which bloom, as all these die as soon as they have finished flowering. Another beautiful plant which is just now at its best is Telekia speciosissima, its bright golden flowers, which are borne on stout flower stalks and carried up well above its handsome foliage, make it a fine plant for large borders or the shrubbery border. The florets remind one of threads of golden silk. This plant also makes a fine object for planting in clumps on the grass in the pleasure ground.—T. A.

— LITERARY PIRACY.—The death of a great man in America, Mr. James Russell Lowell, whose writings made him a citizen of the world, has brought forth the reproduction of the following lines of his in condemnation of literary piracy:—

"In vain we call old notions fudge,  
And bend our conscience to our dealing;  
The Ten Commandments will not budge,  
And stealing will continue stealing."

It used to be customary to make some slight acknowledgment of the source from which information was extracted, and is yet in many quarters, but new ways have become established in these latter days, and Mr. Lowell's rebuke is timely. We commend it to the notice of a Birmingham paper, which is supplied with information almost weekly, dished up in various curious ways from our columns by some ingenious compiler. We cannot think the editor of the paper in question is aware of the practice of his subordinate, and it is not conceivable that the proprietors could approve of the method of obtaining news if it were brought before them.



— **HOOPER & CO. (LIMITED).**—The winding-up order against this Company was made upon a creditor's petition, presented on May 25th, 1891. The Company was registered on Dec. 9th, 1886, for the purpose of taking over the business of Messrs. Hooper & Co., seed and horticultural merchants, carried on for nearly fifty years at Covent Garden and elsewhere. The nominal capital of the Company is £100,000, divided into 10,000 shares, of which 4500 were offered for public subscription. The total number of shares allotted is 2556, including 1500 issued to the vendors as fully paid, and 692 so issued to the proprietor of the Maida Vale Nurseries, which were purchased by the Company in 1887 for the amount thus represented. The number of shares applied for at the date of the first allotment (Feb. 23rd, 1887, appears to have been 264. The purchase price agreed upon for the assets of the business was £23,640, of which £15,000 was paid in shares, £2000 in mortgage debentures, and £6640 in cash. The insolvency is attributed to the expenses having exceeded the profits, and to loss by the purchase of stock at the Maida Vale Nurseries. The unsecured liabilities as regards creditors are returned at £10,686, and the assets are estimated at the same amount, the liabilities towards contributories being £24,112.

— **GLAZED FLOWER POTS.**—"J.," on page 136, has said much in favour of these, but from what I have seen of them I must confess that I do not like them so well as the ordinary flower pot, even if the latter does get a little discoloured at times. The glazed pots look more artificial than ordinary pots. We want a pot that looks as natural and unobtrusive as possible. By far the best ware that I have seen for the purpose is made in Nottingham. It is rustic and rough in appearance, coloured green, black and gold in an irregular manner, and looks very ornamental even when empty. When filled with plants the colours harmonise well with the foliage when the spectator is near to the plant, and at a short distance the whole thing is almost inconspicuous. For dinner tables and other purposes connected with indoor decoration there is nothing to compete with these at present; but whether plants will grow in them for any length of time, and whether they can be produced cheaply enough to take the place of ordinary flower pots for everyday use, remains to be proved. As they have only recently come under my notice I cannot express any opinion on these points at present.—W. H. D.

— **SWEET PEAS.**—At the recent Liverpool Show a charming stand of named varieties of Sweet Peas was exhibited by Mr. Henry Eckford. It is the first time Mr. Eckford has paid the Liverpool people a visit, but it is to be hoped it will not be the last, for the exhibit was greatly enjoyed. The varieties which seemed to stand out most conspicuously were Apple Blossom, the standards bright pinkish rose, wings blush; Countess of Radnor; pale mauve standards, wings pale lilac; Primrose, beautiful pale primrose yellow; Orange Prince, bright orange pink suffused with scarlet; Stanley, very dark purple, the flowers having a metallic hue; Mrs. Sankey, pure white, of fine form. There were also varieties of great merit and of the most delicate hues. In a conversation I had with Mr. Eckford he stated great care is required to keep the varieties true to name and the limited quantity of seed some of them produced. He went on to state that with the choicer varieties the best way to succeed with them was to sow them in small pots from the middle to the end of January or a little later, according to situation, and then transplant. By doing so failures would be very few and the step greatly in advance of sowing them outside in drills.—R. P. R.

— **SWEET PEAS FOR CUTTING.**—Few hardy annuals are more generally admired when used in a cut state than these delightful flowers. New classes of plants and flowers are each year brought to the front and remain the rage for a limited time and then sink into oblivion. But however many flowers there may be of various descriptions to cut from, a daily supply of Sweet Peas for filling glasses is always welcomed. A great variety of colour may be obtained from a few packets of mixed seeds, and many effective combinations may be worked out with them. Although the great value of Sweet Peas is well known and fully appreciated, in many cases sufficient attention is not given to their culture to secure the best results, especially in cases where the soil is naturally light and poor. In such instances the rows should be mulched with well decayed manure as soon as the plants have grown to the height of 18 inches or 2 feet, and should the weather prove dry a thorough soaking with water can be given once or twice during the season. The little extra labour thus given is amply repaid by a continuous supply of extra large flowers. I know nothing more effective for arranging with them than pieces of *Dactylis glomerata variegata*. This hardy and easily grown Grass is so useful for a variety of purposes as to deserve a special note on some future occasion.—D. W. C.

— **COREOPSIS.**—These are charming flowers for the garden border, giving a supply of their pretty and varied-coloured blooms from early summer until cut down by frost in autumn. The variety *C. tinctoria* seems to be the most commonly cultivated among the annuals; but there are others more beautiful even than this obtainable from a mixed packet of seeds. There are no seeds cheaper than *Coreopsis*, or *Calliopsis* as they are sometimes called, and certainly no plants give a more continued or brighter display in the borders, or provide more useful flowers for cutting. Although they associate well with other cut flowers in large vase arrangements they, to my mind, have a more pleasing effect when arranged lightly in small vases alone, or rather with only an accompaniment of greenery, preferably small sprays of the common *Asparagus*. Their culture is of the simplest character possible. Sown outdoors in April they bloom in August if they are put in where they are intended to flower. A portion of the seeds, if sown in a box or frame similar to *Asters*, to be afterwards pricked out singly, or in patches of three or four plants, will, if kept under glass protection until the middle of May, commence flowering a few weeks sooner than the outdoor-sown stock, and thus a good succession is ensured. I have given some prominence to mixed packets on the score of economy; but growers preferring to have each variety under name can do so without incurring a large outlay; but for ordinary cutting purposes a mixed packet will furnish ample material for small gardens at any rate. The height of the stems and weight of the flower heads demand some support, or they are liable to be broken by wind and heavy rains.—J. H.

### THE FLOWER TRADE IN PARIS.

[Notes of a Conference held at the Hall of the Association Française pour l'Avancement des Sciences, by MR. H. L. DE VILMORIN.]

(Continued from page 90.)

As will have been seen by previous notes the Parisian flower markets are never idle. In spite of their number and good organisation we are however, compelled to go to the places where they are held in order to profit by them, and many persons who are great flower lovers have not sufficient leisure to do that. It is to these customers that the street merchants apply, selling flowers, vegetables, or fruits of the season. It may be easily understood that the majority of the authorised porters who devote themselves to that laborious but simple trade prefer to offer things that are easily consumed rather than flowers which are an article of luxury or pleasure. But among the poorer classes themselves the agreeable is often placed on the same footing as the useful, and if the "four season" merchant (*marchand des quatre saisons*) has his cart loaded with fruits and flowers, the latter are not always the last to be sold.

Every morning, before daybreak, the small carts are seen in long files all round the central market and the adjoining streets. Watching the sales the street vendors use their small capital with great caution, seeking a bargain before everything, but seldom departing from their usual kind of goods, when the whole army hastily disperses, 4000 carts parading Paris, and 2000 wandering into the suburbs. At no time of the year is there a dearth of supplies, and if on certain days they cease to hawk their modest assortments, it is because the temperature is too severe in the streets, and not on account of the goods being deficient in the central market.

From November to March the environs of Paris furnish irregularly winter flowers, such as Christmas Roses, perpetual Violets, Wallflowers, and winter Heliotropes; but it is, on the contrary, the time of the year when the South of France sends in great profusion the Paper White, Bicolor, and Yellow Narcissus, Roman Hyacinths, and mixed Anemones. It is the season of the yellow Acacia (*Mimosa* of the Parisians), early Tulips, white *Allium neapolitanum*, and for Mignonette, Ten-week Stocks, and Marguerites (*Chrysanthemum frutescens*). Even the wild flowers then yield their tribute, the Lilac Heath (*Erica mediterranea*) reaches us in January from the vicinity of Ciotat and Ollioules; in March the white Heath (*Erica arborea*) comes from Cannes and Esterel.

As soon as plant life awakens in March the woods which surround Paris supply Anemones, and the single yellow Narcissus pseudo-Narcissus, which with Primulas partake the name of "Coucou." They are brought in March from the Bois de Vincennes, or the forest of Sénart, in globular bouquets surmounted by a tuft of green leaves. Then come the Parisian Hyacinths, single and double, the Narcissus odorus, Narcissus poeticus, called "Jeannettes," the Lily of the Valley, usually sold in a still green budded state, so afraid are the collectors to be distanced by their competitors, the *Stellaria* with their light flowers, and the *Arabis alpina*. The season soon becomes warmer; the open-air Lilac appears, followed by Pompon Roses, Pinks, first Pæonies, Syringas, Snowball, Laburnum, Sweet Williams, Cornflowers, and Fritillarias.

*Lilium candidum* is the first harbinger of the summer; it is followed by Moss Roses, bundles of Grasses intermixed with large Marguerites, of *Lychnis Flos-cuculi*, *Salvia pratensis*, and Buttercups. In full



summer it is the turn of the Ten-week and other Stocks of all colours, Asters, double Picotees, Larkspurs, and Lupins, Sweet Peas, and the Gladiolus, which, with the Dahlias, prolong the flowering period until frosts set in, and combining with the Chrysanthemums, which become more abundant, remain almost alone to keep company with the first Wallflowers and first Violets. It is by no means easy to value, even in an approximate way, the business of the street merchants, but one thing of which we may be certain is that the traffic is reduced by at least one-half during the spells of cold weather.

Between the street vendors and the florists having a shop come the occupants of the kiosks and barracks established in several points of Paris, and particularly around the churches. Being on an average better provided than the street hawkers, and selling pot plants, which the latter do not, these kiosk-keepers nevertheless run after common and cheap goods. White Stocks, Tree Marguerites, Richardia æthiopica, Deutzias, and white Dahlias are the favourite flowers. The business is most brisk during the "*mois de Marie*" (May) and near the great festivals. Those which in Paris give the greatest impetus to the flower traffic are, proceeding in order of date, St. Josephus, 19th March; St. John, 24th June; St. Peter and St. Paul, 29th June; St. Vincent, 19th July; St. Ann, 26th July; Assumption, 15th August; St. Louis, 25th August; St. Augustin, 28th August; St. Charles, 4th November. When the festivals do not correspond with the authorised market days exceptional markets are held on their eve at the "*Quai aux Fleurs*." We must also mention here the merchants established near the cemeteries, and which are most numerous towards All Saints' day.—EUG. SCHAETTEL.

(To be continued.)

### HORTICULTURE AMONG THE ANCIENTS.

In the search for records of work in far past times I have found much of interest to me, and it may possibly be of interest to others. To go no further back, the Chinese, Japanese, Chaldeans, Egyptians, and Phœnicians held husbandry in high esteem, but a great deal relating to the two former is mythological, though they early practised the art of stirring the soil, economising manures, and applying them in the form best calculated to nourish and bring the crop to maturity, and displayed unwearied industry in eradicating weeds, yet it is a mistake to set them down as adepts at husbandry. They were slavish followers of routine, absolutely refusing to profit by the advanced views of contemporaries in other countries. The rich alluvial plains of China may account for their wishing nothing better than the rudest implements. The historic horticulture of China is alleged to date 2000 or 3000 years before Christ, but the Chow dynasty was founded by Woo-wang, about 1100 B.C., and of their gardening little was known until recent years beyond fable. The Japanese have made rapid strides in "latter times."

Babylon was famous for its hanging gardens, and amongst the most ancient of the earth, having attained to a certain degree of scientific cultivation 2000 B.C. Of Nineveh, founded 2347 B.C., absolutely nothing is known of its gardening. The Greeks took up the arts of the Assyrians on their decadence. The Egyptians early grew Beans, Leeks, Garlic, Onions, and Cucumbers. When Abraham entered the Delta from Canaan, about 1600 to 1700 B.C., they had long enjoyed the advantage of a settled government, and become great in pyramids, dating 2500—2000 B.C., if not in gardening, for which it does not appear they were at any time famous, therefore we must concede the Egyptians to agriculturists. Diodorus Siculus, who wrote in the time of Julius Cæsar and Augustus, states that they were acquainted with the importance of a rotation of crops, their adaptation to soils, and tethered cattle on green Clover, feeding them on hay during the inundations of the Nile.

Phœnicia was renowned for its fertile soil and producing fruit—Almonds, Apricots, Bananas, Citrons, Figs, Grapes, Olives, Peaches, Pomegranates, and Sugar-cane, with "ordinary fruit" (whatever that may have been). Carthage was founded between 800 and 900 B.C., but some place it as early as 1200 B.C. The Carthaginians were foremost in agriculture of their times. Mago, one of their greatest generals, wrote twenty-eight books on farming, which Columella states were translated into Latin by express decree of the Roman Senate. Columella lived about the middle of the first century, wrote twelve books on practical agriculture, one on gardening in verse ("*De Re Rustica*"), and another book on the cultivation of trees. He was born at Cadiz, in Spain, therefore had his tuition from the Phœnicians or second-hand from the Carthaginian Mago. What the Phœnicians left behind in Cornwall in lieu of tin is not known, but they could hardly fail to have an effect in their intercourse with our island inhabitants and its gardening of a beneficial character.

Damascus, supposed to be the most ancient city in the world, was in all times famed for its gardens, and now the plain on which it stands is covered with the most "beautiful gardens and orchards, irrigated by the limpid waters of the Barrada, forming a waving grove of more than fifty miles in circuit, rich in the most luxuriant foliage and the finest fruits, including Oranges, Lemons, Citrons, Pomegranates, Mulberries, Figs, Plums, Walnuts, Pears, Apples, &c." Its soil is of remarkable fertility. Syria early became part of the Assyrian empire, passed to the Persians under Cyrus, and the Greeks under Alexander, the gardening of which we shall presently note.

Abraham was no gardener, nor were the Israelites in any sense horticulturists, for their life was nomadic up to the going down into Egypt, from which people they derived the art of gardening, hence their hankering after its Cucumbers. After possession of Canaan their

delight seems to have been in fields and vineyards, none of their cities being famous for gardens. Jerusalem, if identical with Salem, must have existed 2000 B.C., but it is not known by its own name until 1500 B.C. Its strata are limestone, thin of soil, therefore, not suited for horticulture, yet the Olive thrives well, and there were ornamental if not useful gardens in the time of Solomon, but these appear to have been an Egyptian innovation, made to delight Pharaoh's daughters. Indeed, Solomon's writings are confined to the ornamental aspect of gardening, and this seems to have been the extent of Israelitic horticulture. The Hebrews were a pastoral nation—shepherds, herdsmen, lovers of milk and honey, corn and wine, hence the frequent reference in the Scriptures to vineyards.

Passing to the Greeks we find the greatest of epic poets—Homer, 1184-684 (a difference of 500 years) B.C., in vivid and picturesque descriptions singing the praises of the palace gardens of Alcæon and those of the cottage of Laertes. Homer is supposed to have been a native of some place on the seaboard of Asia Minor; his gardening, therefore, would combine that of the Chaldean, Egyptian, and Phœnician, hence the truth and wisdom—the living picture of Nature so unique in Homer and in Shakespeare.

Hesiod, a native of Cyme, Æolia, a province of Asia Minor, settled when a boy in Asera, a village of Bœotia, at the foot of Mount Helicon, but spent the latter part of his life at Soeris. Herodotus calls him the contemporary of Homer, living 400 years before himself, about 900 B.C.; but Hesiod is supposed to have lived about 735 B.C. He and his brother Perses resided with their father at Asera, engaged in cultivating the soil and tending cattle. After the death of their parent the estate was divided, but Hesiod was deprived of half his share by his avaricious and prodigal brother, aided by unjust judges. Nevertheless, Hesiod carefully husbanded what remained to him, and seems to have been a successful cultivator of the soil and economist. Perses wasted his estate by neglect and indolence; labour-starved land did not pay in Hesiod's time. Hesiod wrote a poem entitled "*Works and Days*," so denominated because husbandry requires exact observances of times and seasons. He mentions a plough consisting of three parts, the share-beam, draught-pole, and plough-tail; also a cart with low wheels, and ten spans (7 feet 6 inches) in width; a rake, sickle, and ox goad. The ground received three ploughings—one in autumn, another in spring, and a third before sowing the seed. Manures were applied and ploughed in.

Lessons of wisdom appear to have been taught by the seven wise men of Greece—Periander, Pittacus, Thales, Solon, Bias, Chilo, and Cleobulus, the title acquired by mature experience, practical skill in business, and the arts. The poetie, by the spirit of inquiry, passes into the scientific period, presents us with Herodotus, father of history, the recorder of facts. He was born at Halicarnassus, in Caria, 484 B.C. Egypt early engaged his attention, from which he collected a mass of information. Babylon, still flourishing, was visited, and he states himself that he resided at Tyre. Thus the richest stores of knowledge was gathered from Egyptian, Chaldean, and Phœnician sources, for Herodotus not only described the places seen in his travels, but investigated the productions of the soil.

Socrates (469-399 B.C.) must be named for giving Greek philosophy a practical direction, and one of his scholars, Xenophon, born at Athens about 445 B.C., wrote on agriculture. Plato, another disciple of Socrates, was born at Athens or in the island of Ægina, probably on 27th May, 430 or 427 B.C., and about 389 or 388 began to teach in the gymnasium of the Academy and in his own gardens at Colonus, the inner circle of his disciples assembling at simple meals in his garden. He died 347 B.C., and by his will his garden remained the property of his school.

Aristotle was born in 384 B.C., at Stagira, a seaport of Chalcidice, a southern province of Macedonia. His father, Nicomachus, was physician to Amyntas II., king of Macedonia; but the family was not Macedonian, for Aristotle claimed to be descended from Æsculapius; therefore of the race of Asclepiadæ, whose hereditary profession was that of physicians. Aristotle established his school in the Lyceum, a gymnasium attached to the temple of Apollo Lyceus at Athens, and his lectures were delivered in the wooded walks of the Lyceum. Pleasure gardens or recreation grounds were an institution of Greece.

Theophrastus, a disciple of Plato and Aristotle, was born early in the fourth century, B.C., at Eresus, in the island of Lesbos. Two thousand students attended his lectures, kings and princes solicited his friendship, Cassandre, sovereign of Macedon, and Ptolemy Lagos, king of Egypt, treating him handsomely. Two entire works of his on botany are preserved to us, and he mentions six different kinds of manures, and adds that a mixture of soil produces the same effects as manures. Clay, he observes, should be mixed with sand, and sand with clay. He died in 287 B.C., some accounts giving his age at eighty-five, others 106 or 107 years.

Epicurus, the founder of the Epicurean system, was born in the island of Samos, 342 B.C. In 306 B.C. the philosophical school of Epicurus was established, he having purchased a garden in a favourable situation, where he spent the remainder of his life in simplicity and temperance, dying, aged seventy-two, 270 B.C. Thus the Greeks combined learning, art, and science with gardening. They were not to the "manner born," but they had a poor soil to deal with, and derived their ideas of cultivation from the Chaldeans, Egyptians, and Phœnicians.

In passing to the Romans we must observe that Greek colonies had been formed in the Roman peninsula, and the ancient Romans had the advantage of their and Carthaginian experience.

Cato, the Censor, was born 234 B.C., at Tusculum, cultivated a



small estate, inherited from his father, in the territory of the Sabines, and at seventeen was taken from his farm to repel Hannibal's invasion of Italy, and after the war returned to his estate, practising husbandry and oratory in the neighbouring towns. His work, "*De Re Rustica*," shows him to have been an industrious and judicious husbandman, and, though statesman, orator, and general, his highest honour is his voluminous work on agriculture. He mentions two kinds of plough, one for heavy and the other for light soils.

Varro, born 116 B.C., wrote a treatise upon agriculture, "*De Re Rustica*," in three books, and among other implements, mentions a plough with two mould boards, which was used to "ridge" with. He died at Rome in 28 B.C. Cicero, a native of Arpenum, was born in the

in the Valley of Ustica, about fifteen miles from Tivoli, and a cottage at Tiber, and another at Rome, so that he was a gardener and farmer, combining the ornamental with the useful. He died 17th November, 8 B.C.

Lucullus, the conqueror of Mithridates, had a splendid villa and magnificent gardens in the north of the city (Rome) on Mount Pincius, called *Collis Hortorum*, which held first rank, and he first transplanted the Cherry tree to Rome from Cerasus, in Pontus. He is stated to have died before 56 B.C. The Pincian Hill is still laid out in walks and gardens, a much frequented spot, and occupying high ground east of the Piazza del Popolo, commands extensive views of modern Rome.

Pliny, author of "*Historia Naturalis*," was a native of Verona or



FIG. 24.—EARLY RIVERS NECTARINE. (See page 149.)

year 106 B.C., his father living in retirement devoted to literary pursuits. He had country seats, and was the intimate friend of Varro.

Virgil, born 15th October, 70 B.C., at Andes, a little village near Mantua, appears to have been inducted into the routine of a small estate which his father possessed and cultivated. Virgil seems to have inherited this farm, for at thirty years of age he went to Rome to seek the restoration of his estate, taken possession of by the soldiers of Octavius and Antony, and was presented to Augustus. That, however, is questioned, but his "*Georgics*" (poem on agriculture), written at the suggestion of Mæcenas, and completed in 31 B.C., after seven years' labour, prove his acquaintance with the cultivation of the soil. He advises me to "bring down the waters of a river upon the seed corn, and when the field is parched, and the plants dying, convey it from the brow of a hill in channels." This is, perhaps, the first mention of irrigation in Europe.

Horace, born December 8th, 65 B.C., had a husbandman father, who purchased the farm where the poet was born, but his paternal estate was confiscated. Mæcenas stood his friend and patron, and had the favour of Augustus Caesar. Horace owned the Sabine Estate, situated

Como, born 23 A.D., and travelled in Germany and Spain. Among other things he mentions a plough with one mould-board, others with a coulter. Fallowing was believed in by the Romans, and manure was collected from many sources, pigeon's dung was most prized, then night soil, mixed with street scrapings, and urine, and esteemed of the greatest value for Vines and Olive trees. Lime was used by the Romans as a manure for fruit trees. Indeed, their cultivation was scientific, and in general such as would meet the approbation of to-day cultivators, and this they made important—namely, the thorough tillage of the soil. Pliny affords an example of what the Romans, with their great advantages, might have done for the extension of human knowledge. He was procurator of the Emperor Nero in Spain, significant of some of the sources of his information, which, according to his own account, were compiled from upwards of 2000 volumes, making extracts from all the books he read, and at his death left his nephew (Pliny the Younger) 160 volumes of these notes. He perished in the eruption of Mount Vesuvius, which overwhelmed Pompeii and Herculaneum 24th August, 79. It may be instructive to note that the Pompeian houses mostly belonged to the wealthy middle class, and had an open court in the centre enclosed by



columns, the middle of which was laid out as a garden, and beyond this lay the private garden, also surrounded by columns. Pliny's "Natural History" was published about 77. On intimate terms with Vespasian, his knowledge may be said to embrace that of the world known at that period.

Columella's book on gardens, already alluded to, contains the most correct information on Roman horticulture of the first century A.D. Martial, born at Bilbilis in Celtiberia, 43 A.D., went to Rome when young, where he continued to reside during the reigns of Nero, Galba, and Domitian, the latter making his circumstances easy, showing the importance the Roman emperors attached to horticulture and agriculture. But though Martial treated of Roman horticulture, he was a native of Spain, and the first civilised nation who made a descent on the peninsula and founded settlements were the Phœnicians. The first inhabitants in historic times appear to have been Iberians, extending beyond the Pyrenæes into Gaul as far as the Rhone, and to these afterwards were joined certain tribes of Celts, who succeeded in making a settlement for themselves, and in process of time the two races amalgamated into one, and were named Celtiberians, of which Martial was a representative. Columella also was of the same stock, and Pliny, as already stated, was Procurator of Spain, and it is significant that these are the most important, except the learned Varro of the Roman writers on husbandry; in fact Columella makes no secret of the fact that Roman arts in tilling the soil was derived from the Carthaginians, and their invasion of Spain took place about 238 B.C. Spanish national literature, however, does not begin until the twelfth century, therefore we must accept the conclusion that Rome attracted all the famous of its time, and stood foremost in knowledge and experience in the horticultural art—gleaned it, no doubt, from other countries. Just as Herodotus, who explored all countries between Egypt and the Straits of Gibraltar, brought knowledge of Carthaginian soil and its tillage to the Greeks to appear in Hesiod, so the Roman Senate, by its edict to translate all Carthaginian works into Latin, brought tillage of the soil to the Romans, and preserved to us in the writings of Columella. Carthage dates 878 B.C., was founded by the Phœnicians, and, according to tradition, Dido, fleeing from Tyre, came to this country, whose inhabitants agreed to give her as much land as could be compassed by an ox-hide. Dido cut the hide into small thongs, with which she enclosed a large piece of land. Thus Carthage bears a close resemblance in her rise to our colonies. The immediate wants of the city must be provided for by the cultivation of the surrounding territory. So it was at Carthage, so it is with all emigrants—they must live, and they cannot subsist without tilling the ground.

Rome ceased to rely on its own soil, deriving supplies from savage Britain, and with neglect of cultivation Roman soil products declined. It got into few hands, became labour-starved. The Empire marked the climax of its prosperity and the beginning of its downfall, but in its hey-day Rome was famous for its gardens. Its population in the reign of Augustus 1,300,000, in that of Trajan 2,000,000.

The open spaces in ancient Rome were numerous, and set apart for various purposes. What concerns our subject is the *campi*, open places covered with grass, which served for popular assemblies, public processions, for the exercise of the youth in arms, and for the burning of the dead bodies. Except for the latter, and by substituting play for arms, the Roman *campi* correspond to our parks; but *aræ* applied to open spaces generally, and put to no particular use, as squares in front of palaces and temples. *Campus Martius* was outside the city, the seven-hilled of Servius Tullius, the upper bend of the Tiber enclosing a large alluvial flat, and the most celebrated, the *Campus Esquilinus* being on the east of the town, and converted by Mæcenas, in great part, into pleasure grounds attached to his palace.

The most magnificent gardens were those of Lucullus, already mentioned; Julius Cæsar had splendid gardens, also Mæcenas and Heliogabalus. Campania, a province of ancient Italy, on account of its natural curiosities, including Vesuvius, the Phlegrean fields, the Lake of Avernus, and the fertility of its soil, was a favourite resort of the ancient Romans. There they built grand country houses and had splendid gardens, with Vines forming a canopy overhead, and everything beautiful, delightful, and fruitful borne by its fertile soil. "There," exclaims Goethe, "it is worth while to till the ground." That is the recorded verdict in all time, whether wealthy citizens have resort to it for health and recreation, or poor emigrants for a living. Our emigrant progeny in the United States and most every colony settled from this country "till the ground" so effectively that its products are placed in our markets at prices starving out the home grower; more, the small holder of land in France, Belgium, &c., places butter, eggs, and fruit at the command of consumers on more acceptable terms than the large, labour-starved holdings of this country. These need the emigrant—the "tiller of the ground." That is where Rome failed. She founded no colonies—no United States, no Australia—secured none in tilling the soil and reaping the reward of their labour.—G. ABBEY.

(To be continued.)

## FAVOURITE FLOWER BEDS.

It unfortunately happens that the majority of bedding plants which produce showy flowers lack perfume, without which they cannot be really perfect, and the charms of any flower garden are greatly enhanced if, while the eye feasts on the glowing colours

around, the delightful fragrance of scented flowers mingles with the air. This can be accomplished to a certain extent by having small beds at intervals filled with scented flowers; but I think there is plenty of room for improving upon that plan, by planting more mixed beds, in which sweet-scented and showy flowers are judiciously combined. Two large beds planted on that principle in the flower garden here are much admired and appreciated. They were sown with Mignonette in May, and at bedding-out time the seedlings were a couple of inches high. Thinking so large a mass without any bright colour near to enliven it would rather spoil the effect of the flower garden as a whole, we planted good examples of Henry Jacoby Pelargonium at intervals of 20 inches among the Mignonette, and as the young seedlings increased in size a few were removed so as to give the "Geraniums" plenty of room, and any shoots that showed signs of growing very strongly were stopped. As soon as the Mignonette began flowering, a number of sweet-scented Mignonette spikes were obtained for filling glasses. These were removed from places where they were becoming crowded, and from around the Pelargoniums. All points considered these beds are quite a success, and I would advise others to give them a trial next year. It would be interesting if several readers of the *Journal* would describe what they consider favourite flower beds.—D. W. C.

## A GIGANTIC VEGETABLE AND FLOWER SHOW.

THE Show held at the Crystal Palace last Saturday in connection with the annual Co-operative Festival was not only of extraordinary magnitude, but of remarkable excellence. The tables were not quite so crowded as they were last year, but the products were decidedly better; indeed, taking into account the extent and quality of the exhibits it is questionable if such a show has ever been seen. It is also difficult to imagine any other building than the Crystal Palace capable of affording accommodation for such a display and the enormous throng of visitors who assembled on the occasion. A length of 2400 feet of tabling was provided for the exhibits, the entries numbering upwards of 4500.

The exhibits from the gardens and allotments of working people numbered over 3000, those of members of the Agricultural and Horticultural Association about 1000; the rest were honey and miscellaneous exhibits. The Show afforded evidence of the great variety of vegetables cultivated by cottagers. Although Potatoes headed the list in the industrial classes with 243 exhibits (many of them collections), other vegetables were adequately represented, as may be seen by the following summary:—Beans, 231 entries; Carrots, 126; Peas, 118; Onions, 102; Beetroot, 97; garden Turnips, 85; Lettuces, 81; Vegetable Marrows, 76; Shallots, 61; Cucumbers, 54; Celery, 49; Parsnips, 39; Cabbages, 36; Tomatoes, 33; Cauliflowers, 21; Radishes, 20; and Leeks, 6. There were besides thirty-eight collections of vegetables shown by cottagers. In flowers the exhibits by cottagers numbered 1358, and their fruit exhibits 240. Roses headed the list in flowers, Apples and Gooseberries in fruit.

It would be impossible to speak too highly of the produce in the various classes. Vegetables of all kinds were apparently as good as they could be, while all the flowers usually seen in gardens were represented, and there was a creditable display of fruit. Some hundreds of prizes were awarded, and the fourteen experienced Judges found it no easy task to complete their work in the prescribed time. It was not quite finished at the time for opening the Show, as the exhibits could not be ready at the time for commencing. The crowd broke through the barriers, but Mr. O. E. Greening was equal to the occasion. He promptly made Mr. D. T. Fish Chairman, and asked him to address the multitude. He mounted the chair and spoke with his usual fluency, concluding by asking Mr. J. Wright to open the Show, and he in turn kept the attention of the huge audience till his colleagues brought the judging to a close. Mr. Greening, Mr. Broomhall, Mr. Head, and all who shared in the organisation and arrangement, as well as the cultivators, are to be congratulated on the great success that was undoubtedly achieved.

## STRAWBERRIES IN 1891.

THE severe frost of Whit-Sunday cut all the king flowers of the earlier sorts, so that we only began picking on 24th, as against the 13th June in 1890, and finished August 5th, so that for earliness we cannot make decisive notes, while as a natural consequence the early fruit came smaller than usual. John Ruskin proves precocious, but it lacks flavour, and is only fit for a few early berries in the forcing house, while owing to the want of bright warm days and, still more, warm nights, all kinds have wanted flavour. Those which have withstood the weather best and proved of average merit are

Vicomtesse Hericart de Thury, Goliath, Victoria, Eleanor, La Grosse Sucrée, Aromatic; while British Queen, Dr. Hogg, Lucas, and Countess have been extra fine in size and flavour; Elton Pine, Filbert Pine, Kimberley, Aberdeen Favourite were, with Waterloo, better than for some years.

King of Earlies, President, James Veitch, Noble, Jubilee, and Napier suffered from the want of finer weather and rotted off, those with dwarf



foliage naturally doing best in a watery summer. Among less known varieties Georges Lusuir, Unser Fritz, the new Albert, and Commander were very good. Laxton's Latest of All is a fine large fruit of the highest flavour, and Competitor is a very promising kind, but Laxton's (this year's) White Knight is a very distinct and remarkable berry, which in a drier season will, we believe, be of first class flavour. No others in our large collection from which we are selecting the finest for adoption have proved of marked excellence, but two or three years' trials are necessary to establish the reputation of any variety of Strawberry.—GEORGE BUNYARD & CO., Maidstone.

### SEASONABLE WORK IN PLEASURE GROUNDS.

WHERE pleasure grounds are extensive the work of pruning shrubs and trees is an item of great importance, and should not be confined to one season of the year only, but should be continually going on as the necessity for the operation arises and the opportunity for carrying it out occurs. Unfortunately in many instances pruning becomes necessary to a far greater extent than is desirable, on account of too close planting. In the case of shrubs which are only employed as an undergrowth, and which are destined to be cut clean away as the permanent trees develop themselves, close planting is sometimes desirable. It is a mistake to plant trees intended to be permanent too close together, for the obvious reason that the difficulty cannot afterwards be overcome satisfactorily by removing some of the trees, because those left are not in the exact positions in which they are required, unless in the first place those intended to be permanent are planted with that object in view, and for the sake of immediate effect, the spaces between them planted with supernumerary trees, which will in the course of a few years prove useful for removing to other parts of the grounds. At the present time of the year an opportunity occurs in most gardens of giving shrubs and trees special attention, not only in the way of pruning, but also by marking those that require transplanting in the autumn, and by determining other alterations necessary. When evergreen and deciduous trees are intermixed (as they should be for the sake of effect) it can be more accurately determined what alterations are necessary while the foliage is still upon the deciduous trees. Any that require cutting back severely can then be left till the early spring months, while the work of pruning those which only require a little cutting into shape and shortening can be done now as well as at any season of the year. As the experience of the last year or two shows how unwise it is to leave so large an amount of work for the winter months, with the result that planting cannot be performed at the most suitable times, and failure is often the sequel.

The operation of pruning and clipping should first be performed upon hedges of Yew and Box, as when clipped at the present time they make just enough sturdy growth to look well throughout the winter; and during the spring months, when everything is fresh and green around, the young growth on the hedges is in keeping with surrounding scenes. The same remarks apply to Box edgings, the clipping of which cannot be performed at a better season, and wherever blank spaces occur good bushy pieces of Box may be inserted with a certainty of their taking root if the soil is pressed firmly around them and they are kept watered for a time. Rhododendrons of the ponticum type when planted near the edges of walks or at the back of mixed borders quickly cover their allotted space, and begin to encroach upon walks and borders. The best way to treat these is to cut away a few of the most straggling shoots, drive a few stakes and pegs into the ground, and tie some of the strongest shoots back to them, and the smaller shoots can be tied loosely to the main branches. By these means they may be kept within proper limits for several years without cutting away many of the flowering shoots. Laurel and Yew bushes that require annual pruning to keep them within bounds should now have the strongest shoots cut back to two or three buds at the base, while the weaker shoots can be left uncut, always taking care to prune in such a way as to leave as few cuts as possible visible, and by taking out a few large branches here and there shrubs of this description may always be kept within proper limits without pruning them back in the formal mop-headed style in which we often see them.

The general overhauling of shrubberies which should take place at this time of the year often reveals young trees (which give promise of making fine specimens) threatened with being permanently crippled by surrounding shrubs unless prompt action is taken. In my opinion it is a suicidal policy to pass over such cases to be dealt with in the winter when the evil is daily becoming worse. Every effort should be made to cut away shrubs at once so that the young trees, whose welfare is the greatest consideration, may have the benefit of light and sun to prepare them for the winter by solidifying and ripening their growth. Any young trees that are not thriving in a satisfactory way, apparently by reason of the poorness of the soil in which they are growing, should have a few inches of the surface soil removed and be top-dressed with fresh soil to which an equal quantity of well decayed manure and a good sprinkling of burnt refuse has been added. If this is done within the next few weeks the rains of autumn and winter will wash the enriching properties of the top-dressing down to the roots, so that the trees may receive the fullest benefit from it. It left till the spring the little rain we usually get during the summer months is kept from the soil by the overhanging branches; the trees cannot, therefore, derive the fullest amount of benefit from the top-dressing.—H. DUNKIN.



### LARGE AND SMALL ROSE GROWERS.

ANOTHER season of exhibiting has passed and nothing has been done by the Committee of the N.R.S. to relieve the grievance still existing—viz., to allot to each grower of Roses the *bonâ fide* class, or classes, in which he ought to compete according to his capabilities.

All the arguments of "J. B." and myself in the previous numbers of your Journal that were brought to prove how utterly unfair the framing of the schedule is, as it now stands, have been of no avail.

Is it not positively clear that growers in the upper divisions can compete in the lower ones if they choose?

Have they not done so? will they not do it again to suit their purpose when circumstances arise? Has there not been a case in point this year at Hereford, where a gentleman, who, I believe, has been accustomed to show in the upper division, entered in the class for twenty-four varieties? On arrival at the Show, I suppose, he found the competition too keen for him, so he re-entered in the class of twelve. By some means it became known to the exhibitors in that class, and had it not been for their vigilance in entering a protest against such tactics, no doubt someone would have been deprived of winning a prize; but, thanks to the prompt action of the Committee (in this case), his designs were frustrated, according to Rule II. members not being allowed to enter in more than one class.

I ask, Is it right that this sort of thing should be allowed any longer to exist? Is it fair to the small grower, who pays his contribution the same as the larger one? This being the case, why should he not have the same consideration from the Committee? Fair play is the jewel I will continue to ask for; it is all the small growers want, and it is only just that they should have it.—AN EXHIBITOR.

["J. B." desires the address of our correspondent, but it will only be furnished when sent for that purpose with a special request that it be forwarded.]

### A FINE WEEPING ROSE.

WE have received from Mr. Ismay Fisher of Sturton, near Brigg, Lincolnshire, a photograph of a remarkably fine weeping standard Rose. We thought of engraving it, but find that by reducing it to the size of our page its multitude of small blooms could not be adequately represented. The Rose was budded on a Briar twelve years ago. Its height is 9 feet 3 inches, and the branches arch over and reach the ground. The diameter of the Rose a foot above the ground is 14 feet, circumference 44 feet. The circumference of the stem at the ground is 12 inches, 5 feet from the ground 9½ inches. The tree is a fleecy mass of flowers and a beautiful object on the lawn on which it stands. A comparison of the flowers and foliage with other climbing or weeping Roses in Mr. William Paul's collection at Waltham Cross determines the Rose to be the Ayrshire variety Ruga. Mr. Fisher is a great admirer of Roses, and grows them well. He canter off with first prizes at local shows, and his name is among the prizewinners at one at least of the Shows of the National Rose Society. He can do more than grow Roses, he can make "farming pay," a much more notable achievement, and we congratulate him on his success in growing both food and flowers.

### THE NATIONAL CARNATION AND PICOTEE SOCIETY. NORTHERN DIVISION, MANCHESTER.

THE annual Exhibition of this division of the Society was held in the Botanic Gardens, Manchester, on Saturday, the 15th inst., and there was a large attendance of growers. Amongst those from Lancashire and Yorkshire were Messrs. Lord, Whitham, Geggie, Samuel Barlow, Shaw, Edwards, and others. The midland exhibitors were Messrs. Herbert (Thomson & Co.), Sydenham, A. W. Jones, A. R. Brown, J. P. Sharp, and W. Bacon, Derby; and the more southern exhibitors were Messrs. Joseph Lakin and George Chaundy from Oxford, and Mr. Charles Turner, Slough. The Exhibition was decidedly in advance of last year, and the blooms generally were of fine quality.

In the class for twelve Carnations, dissimilar.—First, Mr. T. Lord, Todmorden, with a very fine Master Fred, Sarah Payne, Gordon Lewis, J. D. Hextall, Master Stanley, Wm. Skirving, Sybil, Robert Houlgrave, Richard Beeley, Admiral Curzon, Mayor of Nottingham, and Henry Cannell. Second, Messrs. Thomson & Co. with a capital stand of Master Fred, Duke d'Aumale, very fine indeed; Sarah Payne, Robert Thomson, Thalia, C. H. Herbert, Rifleman, Alismond, Matador, Florence Nightingale, Robert Houlgrave, and a crimson bizarre sport from Tim Bobbin, very fine. Third, Mr. H. Geggie, a very good stand consisting chiefly of seedlings. Fourth, Mr. Joseph Lakin.

Twelve Picotees, dissimilar.—First, Messrs. Thomson & Co., with a stand of large well-built refined flowers, consisting of John Smith, Becky Sharp, Gertrude, Little Phil, Zerlina, Thomas William, Mrs. Sharp, Favourite, Campanini, very fine; seedling, Mrs. Payne and Brunette. Second, Mr. T. Lord, with rather small but very refined blooms of Zerlina, Favourite, Clara Penson, Mrs. Sharp, Campinini, Alice, Thomas



William, Muriel, Robert Scott, Mrs. Flowdy, Ann Lord, and John Smith. Third, Mr. Joseph Lakin.

In the class for twelve Carnations, nine at least dissimilar.—First, Mr. George Chaundy, Oxford, with seedlings chiefly. Second, Mr. J. Whitham, Hebden Bridge, with Master Fred, twelve blooms; Robert Houlgrave, Gordon Lewis, Captain Holford, Oscar Witford, Biddy Malone, Joseph Lakin, Sybil, Robert Houlgrave, Joseph Lakin, and Admiral Curzon. Third, Mr. A. R. Brown, Birmingham. Fourth, Mr. Samuel Barlow.

In the class for twelve Picotees, nine at least dissimilar.—First, Mr. A. R. Brown, with Becky Sharp, Lady Holmesdale, two fine blooms; Clara Penson, Constance Heron, Campanini, Brunette, two blooms; Norman Carr, Favourite, Thomas William, and Mrs. Rudd. Second, Mr. G. Chaundy, with two blooms of Imogen, two seedlings, Norman Carr, Royal Visit, Thomas William, two blooms; Annie, Dora Goodman, Zerlina, and Mrs. Bower. Third, Mr. J. Whitham. Fourth, Mr. E. Shaw. Fifth, Mr. W. Bacon, Derby. In the class for six Carnations, dissimilar, there were several exhibits, but we failed to get notes of the winners.

With six Picotees, dissimilar, there was a strong competition. First, Mr. A. W. Jones with a very excellent stand of Brunette, Mr. Payne, Muriel, Thomas William, Edith Dombain, and Zerlina. Second, Mr. J. Edwards, Blackley, with Mrs. Edwards, Daisy, Clara Penson, Thomas William, Seedling, and Mr. Lord, a fine lot of blooms. Third, Mr. J. Blackley. Fourth, Mr. J. P. Sharp. Fifth, Mr. J. Beswick. In the class for twelve selfs, not more than two flowers of any one variety.—First, Mr. G. Chaundy with Germania and seedlings. Second, Mr. Robert Sydenham with Germania, Theodora, Dodwell's 197, Mrs. Ford, Chaundy's 134, Sportsman, Annie Lakin, Mrs. Reynolds Hole, Mrs. Vernon Harcourt, Hebe, Claudine, and Seedling. Third, Mr. J. Edwards. Fourth, Mr. A. R. Brown. For six Selfs.—First, Mr. A. W. Jones. Second, Messrs. Thomson & Co.

For twelve Carnations, florists' varieties and selfs excluded.—First, Messrs. Thomson & Co., with a stand of superb Fancy varieties with A. W. Jones, two blooms; Schleiben, a very fine seedling, yellow ground; Dodwell's 167, Esmarch, Stadthail, a grand variety; Terra Cotta, Dodwell's 166, Von Helonhaltz, Agnes Chambers, and Lady Edwards. Second, Mr. G. Chaundy with Dodwell's 167, 184, 185, 202, 192, Ada, Queen of Hearts, and five seedlings. Third, Mr. S. Barlow. Six Fancy Carnations.—First, Mr. A. W. Jones with Alfred Gray, two blooms; A. W. Jones, Dodwell's 191, Terra Cotta, and Ellis's Maud, very fine. Second, Mr. J. Lakin, Oxford, with Janira, two blooms, very fine; Lilian, two blooms, a lovely yellow ground with bright carmine marking, very fine; Stadthail, and a seedling. Third, Mr. S. Barlow. Fourth, Mr. A. R. Brown.

**SINGLE BLOOM CARNATIONS.**—*Scarlet Bizarres.*—First and fifth, Mr. Lord with Robert Houlgrave, and second with Admiral Curzon. Third, Messrs. Thomson & Co. with Robert Houlgrave. Fourth, Mr. R. Sydenham with Robert Lord.

*Crimson Bizarres.*—First, Mr. Lord with J. D. Hextall. Second, Mr. Whitham with Master Fred. Third, Mr. Lord with Master Fred. Fourth, Mr. Whitham with Joseph Lakin. Fifth, Mr. Sydenham with Master Fred.

*Pink and Purple Bizarres.*—First, Mr. Lord with Wm. Skirving, and second with Harrison Weir. Third, Mr. J. Edwards with E. S. Dodwell. Fourth, Mr. Sydenham with Thos. Anstiss. Fifth, Mr. Chaundy with Rifleman.

*Scarlet Flakes.*—First, J. W. Lord with Sportsman. Second, Mr. Geggie with Seedling. Third, Mr. Sydenham with Sportsman. Fourth, Mr. J. Cliff with the same. Fifth, Messrs. Thomson & Co. with Alismond.

*Rose Flakes.*—First and third, Messrs. Thomson & Co., with Robert Thomson. Second and fifth, Mr. J. P. Sharpe, with Thalia. Fourth, Mr. J. Whitham, with Crista Galli.

*Purple Flakes.*—First, Mr. G. Chaundy, with Young Mcynell. Second, with Seedling; and fifth, with Oscar Wilford. Third, Messrs. Thomson and Co., with Florence Nightingale. Fourth, Mr. J. Whitham, with Gordon Lewis.

**SINGLE BLOOM PICOTEES.**—*Heavy Red Edge.*—First, Messrs. Thomson & Co., with Isabella Lakin. Second, Mr. A. W. Jones, with John Smith. Third, Mr. E. Shaw, with Lord Valentia. Fourth, Mr. J. Whitham, with Brunette. Fifth, Mr. A. R. Brown, with Mary Anstiss.

*Light Red Edge.*—First, second, fourth and fifth, Mr. A. W. Jones, with Thomas William. Third, Mr. Lord, with the same.

*Heavy Purple Edge.*—First and third, Mr. Lord, with Zerlina. Second, Mr. A. W. Jones, with the same; fourth and fifth also, with Muriel.

*Light Purple Edge.*—First, Mr. Lord, with Clara Penson; and second with Sylvia. Third, Mr. A. W. Jones, with Baroness Burdett Coutts. Fourth, Mr. A. Brown, with Clara Penson. Fifth, Mr. J. P. Sharp, with a seedling.

*Heavy Rose, Salmon or Scarlet Edge.*—First and second, Mr. A. W. Jones, with Lady Louisa, also third with Mrs. Payne. Fourth, Messrs. Thomson & Co., with Campanini; and fifth, with Little Phil.

*Light Rose, Salmon, or Scarlet Edge.*—First, Mr. A. W. Jones, with Mrs. Payne. Second, Messrs. Thomson & Co., with Favourite. Third, fourth, and fifth, Mr. A. W. Jones, with Favourite.

The premier Carnation in the Exhibition was Master Fred from Mr. T. Lord, and the premier Picotee Mrs. Payne from Mr. A. W. Jones.

Certificates were awarded to Mr. Charles Turner for Fancy Picotees Countess of Jersey, Romulus, Victory, Mrs. Henwood, Mr. Walford; Selfs Salamander, King of Scarlets; Carnation Lady Mary Currie, R.F.; Picotee Mrs. Harford, heavy rose edge. Messrs. Thomson & Co.'s yellow ground bizarre Picotee A. W. Jones, a very fine variety, intense in the

brightness of colour; Blushing Bride, a superb blush white self; Robert Thomson, a fine rose flake. Mr. J. P. Sharp, Picotee Edith, light purple edge, very fine; Heroine, a heavy rose edge.

The luncheon was well attended, Mr. Samuel Barlow presiding.

## HORTICULTURAL SHOWS.

### TAUNTON DEANE.

THE promoters and friends of this long-established and admirably managed Society were exceedingly fortunate in this "snatchy" season, which has been so fatal to outdoor engagements, to have secured a beautiful day for their annual Exhibition, and it need hardly be said that it again showed the earnestness with which horticulture is pursued in the West, and the extent of its popularity was to be seen in the vast amount of spectators who thronged the tents and Show ground, while the streets were so filled that it was a matter of difficulty to steer one's way through them. Certainly these western counties put to shame the cold and flabby way in which horticultural shows are carried out nearer the metropolis. It is here the day of the year, trains bringing in crowds of visitors from all parts; the neighbouring counties, not all perhaps attracted by the love of horticulture, but all determined to "make a day of it," and when to this it is added that a first-rate cricket match between Surrey and Somerset and an Electric Exhibition were going on at the same time, it will be acknowledged, I think, that these good folks in the west country can stand a good deal of fatigue in the way of pleasure.

It can hardly be said, however, that in many points the plants and flowers were equal to those of former years. The season was against many things, and the changes of fashion were responsible for others. Thus, although Mr. Cypher of Cheltenham was there, as usual, with his magnificent stove and greenhouse plants, Ferns, and Orchids, there was a great falling off in the other exhibitors. Mr. Cleave was no longer there to run him hard, and other exhibitors who in former years used to help to fill up the nurserymen's class were no longer there, and there was a great gap between the first and second collections. In class 1, for twelve stove and greenhouse plants (open), Mr. Cypher easily took first prize with *Ixora regina*, *Ixora Fraseri*, *Ixora Williamsi*, *Clerodendron Balfourianum*, *Kalosanthes coccinea*, *Statice profusa*, *Bougainvillea glabra*, *Allamanda nobilis*, *Allamanda grandiflora*, *Erica Irbyana*, *Erica Fosteriana*, and *Stephanotis floribunda*, a grand plant, splendidly grown and flowered. Mr. W. Boule of Exeter was second; and Mr. Mould, nurseryman, Pewsey, third. In class 2, for six stove and greenhouse plants, Mr. Cypher was again first with *Allamanda nobilis*, *Ixora Fraseri*, *I. Williamsi*, *Erica Fosteriana*, *E. obbata profusa*. In class 3, for eight fine-foliaged and variegated plants, he was also first with fine plants of *Croton angustifolius*, *Croton Newmani*, *Croton Sunset*, *Cycas revoluta*, *Kentia Fosteriana*, *Kentia australis*, *Cordyline indivisa*, and *Latania borbonica*. He also took the first prize in new ornamental plants with *Pteris tremula Smithiana*, and for new plants in flower with *Cypripedium vexillarium superbum*. In the class for four Orchids he took also first prize with *Epidendrum prismatocarpum*, *Cattleya Gaskelliana*, *Cattleya Sanderiana*, and *Oncidium macranthum*. It is, of course, about the worst time for Orchid growers, but these were excellent specimens. *Pelargoniums* (Zonal) are always a feature of the Taunton Show. Rarely does one see plants so thoroughly well flowered as here, and those exhibited by Mr. Colthurst and others fully sustained this character. Unfortunately no names were attached to the plants, so that I am unable to say what the kinds were. There were some excellent plants of *Begonias*, both single and double; one from Mrs. W. Herbert Fowler of Claremont, Taunton, was placed first. They were well grown, fine varieties, and full of flower. Amongst them were *Wonder* (a seedling of first-rate character), *Guardsman*, *Geo. Bryanson*, *Mrs. French*, and *Eximia*. Mr. H. Godding was a good second.

There was a considerable falling off in *Fuchsias*, the fine well flowered plants that used to be seen here being absent. There were several very effective groups of plants arranged for effect, that shown by Colonel Pepper being deservedly placed first. Amongst the cut flowers in this open division there were some admirable *Roses* shown by Messrs. Perkins & Sons of Coventry. They were *Her Majesty*, *Henry Wm. Eaton* (Perkins) a flower I have never seen before, very pretty, of the *Alfred Colomb* class of flower; *Captain Christy*, *Devienne Lamy*, *Viscountess Folkestone*, *Annie Wood*, *Emily Hausburg*, *Beauty of Waltham*, *Marie Baumann*, *Louis Van Houtte*, *Duc de Rohan*, *Elie Morel*, *Etienne Levet*, *Merveille de Lyon*, *Duke of Wellington*, *Ulrich Brunner*, *Duke of Edinburgh*, *M. Susanne Radocanachi*, *Charles Darwin*, *Madame Eugene Verdier*, *Alfred Colomb*, *Charles Lefebvre*, very dark, almost approaching *Sir Rowland Hill*; *Comtesse de Camando*, *Duchesse de Morny*, *Dr. Andry*, *François Louvat*, *Marie Rady*, *Comte de Raimbaud*, *Exposition de Brie*, *Niphetos*, *Harrison Weir*, *Earl of Dufferin*, *Duke of Connaught*, a fine bloom; *The Bride*, *A. K. Williams*, and *Marie Finger*. Mr. S. P. Budd of Bath was second with some excellent flowers. In the class for twenty-four trebles Messrs. Perkins were again first with excellent blooms of *Alfred Colomb*, *François Louvat*, *Magna Charta*, *A. K. Williams*, *M. Susanne Rodocanachi*, *The Bride*, *Devienne Lamy*, *Pride of Waltham*, *Horace Vernet*, *Earl of Dufferin*, *Grace Darling*, *Duke of Wellington*, *Merveille de Lyon*, *Marie Finger*, *Duke of Edinburgh*, *La France*, *E. Y. Teas*, *Annie Wood*, *Viscountess Folkestone*, *Madame E. Verdier*, *Annie Wood*, *Lady Sheffield*, *Lady Helen Stuart*, and *Duchess of Bedford*.

In this tent Mr. Kelway had, as usual, a stand of his very beautiful *Gladioli* which attracted much attention. They consisted mainly of his



own seedlings, and were close and compact in the spike; two of them received certificates in those staged for competition. Mr. W. Herbert Fowler had a beautiful stand of twenty-four, and considering the backwardness of the season, it was quite wonderful to see so good a stand set up. The varieties were, it need hardly be said, good, consisting of such kinds as Shakespeare, Cherub, Adolphe Brongniart, Mr. Fowler, Pollux, &c. The standard which Mr. Fowler has attained is a very high one, and his flowers will bear comparison with any that I have seen exhibited anywhere, although they were not quite equal to those of last year. He exhibited, however, in the amateur division a beautiful stand of six which were very superior varieties of Cherub, Delila, Adolphe Brongniart, Satin Rose, Pollux, and Distinction.

Mr. Budd exhibited two boxes of Roses in excellent condition, so fine were they that they were awarded a medal for examples of excellency of cultivation; especially good was the box of Teas. His twenty-four varieties were Mrs. John Laing, A. K. Williams, Charles Lefebvre, La France, Lady Helen Stuart, Alfred Colomb, Alfred Dumesnil, Le Havre, Catherine Mermet, Charles Darwin, The Bride, Duke of Wellington, Fisher Holmes, Merveille de Lyon, &c. His Teas were Souvenir d'Elise, Edith Giffard, Caroline Kuster, Madame Lombard, Francisca Kruger, The Bride, and Amazone. Of some of these, as permitted by the schedule, two were staged; the veteran Mr. Thomas Hobbs of Bristol also showed, and was especially strong in Dahlias, in which he has for many years held a conspicuous place. Messrs. Kelway, besides their stand of Gladioli, exhibited a collection of cut blooms, Gaillardias and Delphiniums; Messrs. Veitch & Son of Exeter a fine group of miscellaneous plants. The cut blooms of Begonias exhibited by Mr. Fowler were very fine, noticeable amongst them was Cannell's Rosebud, perhaps the most perfect double Begonia yet raised, and well deserving its name.

It would be, of course, impossible to give anything like a full statement of every department of this very extensive Show, and even in the plant and flower department we can only notice the most striking points. The table decorations were not so abundant as in some years, but that exhibited by Mr. Cypher was in the best style.

I have been compelled to pass by many things that deserved more minute description, but hope that I have been enabled to show that in the ancient county town of Taunton so well, so honourably, and so sadly known in our history, there is no decline in the taste for horticulture, and no want of hearty support; and I could not help thinking if such support is given at this Show and to the Chrysanthemum, why should not there be an equally hearty support given to the Rose, and why should we not hope to see ere long a Rose show at Taunton as well as at Bath?—D., Deal.

Fruit and vegetables were shown exceedingly well, and in great numbers, or enough to fill two large tents, the competition in every instance being most keen. The best collection of ten dishes of the former was staged by Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome, for a generally excellent lot of fruit, Madresfield Court and Foster's Seedling Grapes, Sea Eagle Peaches, Golden Gem Melon, and Oullins Golden Plum being most noteworthy. Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Hill House, Langport, was a good second, and Mr. Crossman, gardener to J. Brutton, Esq., Yeovil, third. The last named was first for four dishes, Dymond Peach in this collection being especially good. Mr. Iggulden followed closely, the third prize in this strongly filled class being won by Mr. B. Marks, gardener to Sir John Shelley, Bart., Crediton.

The best Black Hamburgh Grapes were shown by Mr. C. Warden, Clarendon Park, Salisbury, these being of medium size both in bunch and berry, and beautifully finished. Mr. Iggulden was second, and Mr. G. Bridge, gardener to the Rev. Spekes-Mules, third. The class for any other black variety of Grape was also very well filled, Mr. Daffurn being first with fine Madresfield Court, Mr. Iggulden second with neat well-coloured bunches of the same variety, and Mr. Lloyd was third with Gros Colman, remarkably good. Muscats were not up to their usual excellence, and with these Mr. W. Connelly, gardener J. R. C. Talbot, Esq., Lyme Regis, was well first, and Mr. J. Lloyd second. Nor were the any other white varieties so good as often seen at Taunton. Mr. C. Warden was well first with Buckland Sweetwater, and Mr. Crossman, gardener to Earl Poulett, second with the same variety.

Melons were largely shown, but were only of moderate quality. Mr. A. Turner was first, and Mr. J. Lloyd second. Several good dishes of Peaches were shown, Mr. Crossman being first for a grand dish of Dymond, the second prize going to Mr. Iggulden for Sea Eagle. Mr. F. W. Newton was first and Mr. Iggulden second for Apricots, the first prize lot, however, being badly bruised. A very fine dish of Pine Apple gave Mr. Crossman the lead in the Nectarine class, Mr. Daffurn being second. Several other fruit classes were provided, and in most instances brought together excellent produce. Vegetables, as before stated, were very numerous, and the quality excellent. Mr. Henry Moore was the most successful with collections, Messrs. Ricks, Manley, and Kettlewell also showing well.

#### WILTS.—AUGUST 12TH.

THE annual Exhibition by this Society of plants, cut flowers, fruit, and vegetables took place on the 12th inst. in the Bishop's Palace Grounds, Salisbury, and was one of the best ever held by the Society. The weather was beautifully fine, and a large number of visitors attended the Show. The opportunity of inspecting the well-kept grounds and gardens of the Palace proved an additional attraction. Mr. W. H. Williams (Hon. Sec.) is to be congratulated upon the success of the Show.

**Plants.**—There was a good show of these. A new exhibitor at Salisbury, Mr. Finch, gardener to James Marriott, Esq., Coventry, obtained the first prize in the class for twelve stove and greenhouse plants (distinct), six foliage and six flowering, staging grand plants of, amongst others, Kentia Fosteriana, Cycas circinalis, Latania borbonica, Ixora Williamsi of great size, and covered with large trusses of bright scarlet flowers, Erica jasminiflora alba, and Erica Irbyana. Mr. James Cypher, Cheltenham, was a good second, and Mr. Thomas Wilkins, gardener to Lady Theodora Guest, Inwood House, Henstridge, was third. Four collections were staged. In the class for nine stove and greenhouse plants, four in bloom and five foliage, the first prize was secured by Mr. J. Currey, gardener to Col. Pepper, Milford Hall, Salisbury, his plants including a well-flowered Erica Macnabiana. Mr. W. Peel, gardener to Miss Todd, Shirley, Southampton, was an excellent second. Mr. Wilkins was first for six exotic Ferns, staging large plants, in fine condition, of Gymnogramma Laucheana gigantea, Adiantum cuneatum, Microlepia hirta cristata, Davallia Mooreana, D. polyantha, and Adiantum farleyense. Mr. W. Peel was a good second.

**Groups.**—These formed quite a feature of the Show, no less than twenty-one being arranged. In the two most important classes the arrangements were, generally speaking, in the same light and effective style, plants of various kinds being placed in a groundwork of Maidenhair Fern, fringed with Panicum variegatum and Isolepis gracilis, and in some cases the dwarf variegated Caladium argyrites was used by itself, producing a good effect. The Earl of Radnor's prize for a group covering a semicircle of 12 feet in diameter was won by Mr. Wilkins, four other competitors also having capital arrangements. In the first group a fine spike of Oacidium incurvum showed to great advantage in the centre, in which were also conspicuous well-flowered plants of Cattleya Gaskelliana and Dendrobium formosum. Mr. Curry was second, and Mr. Wills, Shirley, Southampton, was third. Eight good groups were arranged for Messrs. Keynes, Williams & Co.'s prize, the space to be covered being a semicircle of 10 feet in diameter. Mr. Wilkins, Mr. Peel, and Mr. Curry were first, second, and third respectively.

**Fruit.**—This made a good display, and was shown in fine condition. Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, secured premier honours in the class for a collection of eight kinds, staging good bunches of Muscat of Alexandria and Alnwick Seedling Grapes, Queen Pine, Sea Eagle Peaches, Elruge Nectarines, Moor Park Apricot, Lockinge Hero Melon, and Brown Turkey Figs. Mr. Inglefield, gardener to Sir John Kelk, Bart., Tedworth House, Marlborough, was a good second, his dishes including extra fine Black Hamburgh and Muscat Grapes, and Walburton Admirable Peaches. Mr. Ward had the best Pine Apple, and Mr. Budd, gardener to F. G. Dalgety, Esq., Lockerby Hall, Romsay, obtained the second prize, both staging bright fruits of the Queen variety. Grapes.—Out of seven good stands of three bunches of Muscat of Alexandria Mr. Inglefield took the lead with handsome, well coloured bunches, being followed by Mr. Wilson, gardener to Ashley Dodd, Esq., Stockton House, Codford, and Mr. Budd. In the corresponding class for Black Hamburghs Mr. Inglefield was again to the front in a similar competition, being closely followed by Mr. C. Warden, Clarendon Park Gardens, Salisbury, both showing medium-sized bunches of good shape and perfect finish. Mr. Holloway, Down Grange, Basingstoke, was a good third. In the class for any other black Grape, Mr. Warden was first, staging medium-sized bunches of Madresfield Court in fine condition as regards shape and finish. Mr. McFarlane, gardener to W. Baring, Esq., Norman Court, Salisbury, was second with fine bunches of Gros Maroc, Mr. Wilson being a good third with the same variety.

In the class for any other white Grape than Muscat, Mr. Browning, gardener to the Rev. Sir Talbot H. Baker, Bart., had the best stand out of five, being closely followed by Mr. Warden, both staging good bunches of bright-berried Buckland Sweetwater. Mr. Holloway had the best flavoured Melon out of twelve staged, a Lockinge Hero. Messrs. Inglefield and McFarlane showed the best Peaches, staging grand fruits of Walburton Admirable and Barrington, while Messrs. Budd and Ward obtained first and second honours for Nectarines. The first prize for three dishes of dessert Apples was taken by Mr. F. Smith, gardener to the Lord B shop of Salisbury, with clean, even fruits of Beauty of Bath, Irish Peach, and Worcester Pearmain, Mr. Browning staging the best three dishes of culinary Apples—Alexander, Frogmore Prolific, and Lane's Prince Albert—and Mr. Smith being a good second in the same class. The same exhibitors occupied the same positions for four dishes of Pears.

**Vegetables.**—Two good collections of twelve kinds were staged by Mr. Inglefield and Mr. Wilkins, who took the prizes in the order in which their names appear. The first prize collection contained grand examples of Reading Perfection Tomato, Sutton's Satisfaction Potato, Duke of Albany Pea, Ailsa Craig Onion, New Intermediate Carrot, Sutton's Al Runner Bean, Veitch's Autumn Giant Cauliflower, Artichokes, Sutton's Prizetaker Leeks, Wright's Giant Celery, Pragnell's Exhibition Beet, and Cucumbers, the whole being tastefully set up in curled Parsley.

The two medals offered for cultural skill were awarded to Mr. Ward for his collection of fruit, and to Mr. Finch for his grand dozen of foliage and flowering stove and greenhouse plants.

**Cut Flowers.**—Mr. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Winchester, was a good first, his best blooms being Earl of Dufferin, Viscountess Folkestone, Captain Christy, Madame J. Laing, Alfred Colomb, and Comtesse de Nadaillac. In the class for twelve blooms, distinct varieties, Mr. T. G. Shenton, The Glen, Golden Common, Winchester, was first, his best blooms being The Bride, Countess of



Oxford, Alfred Colomb, and Catherine Mermet. Mr. W. Browning was second, and Mr. Fred. Smith was a good third. Mr. W. Goodall, gardener to Alfred Morrison, Esq., Fonthill House, Tisbury, had the best six bunches of Cactus Dahlia, and Mr. West, gardener to J. R. Wigram, Esq., Northlands, Salisbury, had the second best. Mr. R. Goodall, gardener to A. Newall, Esq., Wishford House, Salisbury, was to the front with twelve show Dahlias, staging large blooms of great depth, being very even and fresh, Mr. F. Marlow and Mr. West being second and third in that order. With eighteen bunches of cut flowers Mr. J. Budd was first and Mr. W. Goodall second. Mr. G. Inglefield was a good first in the class for twelve bunches; Mr. W. Browning and Mr. Brown, gardener to Hon. Percy Wyndham, Clouds, Salisbury, were second and third in that order. Mr. Budd and Mr. Inglefield's stands contained good blooms of *Cattleya crispa*, *Stephanotis*, and white *Lapageria*.

**Ladies' Classes.**—These are always well filled at this Show, and the exhibits of the highest order. Miss Agnes Flight was first for a dressed flower vase, a very elegant arrangement, first for six buttonholes, and first for two ladies' shoulder sprays; Miss Lovibond, Miss Marryatt, Miss E. Burt, Miss B. Lywood (Stockbridge), and Mrs. W. F. Trask (Winchester).

**Open Classes.**—For dressed flower vase for dinner-table Mr. Cypher was first with a good arrangement of choice flowers; Mr. Ladhams, Shirley, was second; and Miss Agnes Flight third. For two bouquets, one bride's and one ballroom, first Miss C. A. Mathews, Salisbury, with good arrangements; Tuberoses, white *Lapagerias*, and other suitable flowers were employed with good effect, these being fringed and judiciously intermixed with sprays of Maidenhair Fern. Mr. B. Ladhams was a good second, and Miss Lovibond a good third. Mr. B. Ladhams was first for six gems of buttonholes, Miss C. A. Mathews being a creditable second.

**Non-competitive Exhibits.**—Messrs. Keynes, Williams, & Co. made a fine show of Dahlias, Gladioli, and Roses. Two arches, about 7 feet high and 18 inches wide, crossing each other and covered with moss, in which Roses in great variety were thickly inserted, being garnished with their own foliage, proved a very attractive feature of the Show, and this artistic arrangement of the celebrated Castle Street firm being placed in the centre of one of the large tents was greatly admired. A good show of cut flowers of herbaceous plants in great variety was made by the well-known Exeter firm of Messrs. Robert Veitch & Son, which, tastefully set up, made a telling display, and was much admired, as also were exhibits of similar description by Mr. Ladhams of Shirley. The stands of cut blooms of Tuberoses-rooted Begonias of great size and variety, both double and single, which were staged in the most effective manner by Mr. Davis of Yeovil, commanded much attention from visitors during the day. Mr. Warden also staged six handsome and well-netted Melons of the Conqueror of Europe type. Among Messrs. Keynes' exhibits was a stand of new Cactus Dahlias of bright and attractive colours, seven of which were awarded first-class certificates, including the following:—St. Catherine, Keynerith, Dr. Masters, Baron Schröder, Lady Pembroke, Mrs. Arthur Newall, and the Countess of Radnor.

#### SHEFFIELD FLORAL SOCIETY.

THE ninth annual Show of this successful Society was held on Thursday last, August 13th, in the spacious grounds at The Farm, the Sheffield residence of the Duke of Norfolk. The Society comprises the whole of the tenants occupying land on the various and extensive allotment plots belonging to His Grace in the suburbs of Sheffield. The schedule of prizes was a good one, containing numerous open classes in addition to those reserved for members of the Society, and brought forth a fine competition, well filling an exceedingly large tent 103 feet long by 39 feet wide. The Show was formally opened to the public by the Duke of Norfolk, who was supported by Lord E. Talbot, Sir H. E. Watson, Sir W. C. Leng, the Mayor of Sheffield (Alderman Clegg), and a large and influential company of Sheffield's leading men, the majority of whom afterwards lunched with the Committee and Judges in a large tent specially fitted for the occasion.

The exhibits in many classes were this year decidedly superior to those of previous seasons. Especially was this the case with the open class groups arranged for effect, and in the various classes for specimen plants, open. The style of grouping has greatly improved at this Show as compared with a few years ago, the first and second prize groups especially being so good, both in quality of material and tasteful arrangement, as to apparently leave scarcely any room for further improvement. The first prize was won by Mr. E. Pidsley, gardener to Mrs. H. Wilson; the second by Mr. W. Collier, gardener to Mr. Jno. Eaton. Specimen stove and greenhouse plants were very fine, especially those shown by Mr. Pidsley.

In the numerous classes for vegetables and outdoor garden flowers the quality was not quite up to former years, this falling off being especially noticeable in the Society classes, and is attributable to the remarkably late season, which has been especially felt by the allotment holders of Sheffield. In the open classes the exhibits of cut flowers and of vegetables were of a high order of merit. Messrs. Fisher, Son, and Sibray, Handsworth Nurseries, and Mr. Seagrave, Gleadless Nurseries, contributed groups of plants not for competition, which deservedly received much attention and admiration. At a small tent adjoining the large one a brisk trade appeared to be done in the sale of plants and cut flowers, the proceeds to be devoted to the support of a cot in the Children's Hospital, the plants and flowers having been given for the purpose by members of the Society. The arrangements were excellent, and everything being staged by the time fixed, and the tents cleared for the Judges, so that their work was completed with little

difficulty and in good order before the official time for declaring the Show open. Much of this is due to the tact and energy of the Secretary, Mr. W. Swift, who is well supported by a good working Committee.

#### DUNMORE EAST SHOW.

THIS picturesque marine village, on the edge of the Atlantic, is always an animated sight on each recurring Lady Day (15th August) a holiday in Ireland. It owes much to Mrs. Malcomson, of the palatial residence Villa Marina; Lord James Butler, the Hon. M. Bunbury, and other gentlemen who have residences adjoining the handsome small park provided for the people by the munificence of the Malcomson family. In this park the Show is usually held in a large marquee, and this year the weather joined with all other agencies in making it a success. We missed the Hon. Dudley Fortescue's (gardener, Mr. J. A. Calthorpe) splendid collections of exotic and greenhouse plants and Ferns, Tree Ferns, Caladiums, and plants of ornamental foliage, that in former years made the Show a credit to his fine marine residence at Summer-ville, and had an educational gardening effect each season. This was in some measure compensated for by a really creditable exhibition from Mr. David Saunders (Saunders & Son) Friar's Walk Nurseries, Cork, a flower Show in themselves, and sent evidently at much expense and inconvenience, and also by many fine stove and greenhouse, &c., exhibits from Mr. G. D. Goff, Glenville, near Waterford. Messrs. Saunders staged blooms of twenty-four and forty-eight of double and single Zonals, chiefly the productions of M. Lemoine and other French growers, but having some of Cannell's recent introductions very fine. The same is true of double and single Begonias, that, for outdoor work, have cut out the Zonals this moist season. Among double Begonias particularly good were M. Leroque, M. Cuvellier, M. Commesse, *Candidissima plena*, *Oreste*, *Madame Alfieri*, M. de Werle, M. Paul Figue, Agnes Sorrel, and Blanche Duval.

For the time of the year the Roses were surprisingly good, especially our Irish raised ones that we are so proud of as coming from Messrs. Dickson, Newtownards, and that you had an opportunity of seeing so frequently in England this year. To individually notice the Dahlias would be to repeat the list of winning varieties that have appeared in this Journal frequently. There was a buzz of interest around the stands all day. Among the chief prizewinners, which I must take collectively owing to the limits of space, were the already mentioned Mrs. Malcomson, who had products from her gardens at Villa Marina and Kallinakill; Mrs. Gough Glenville, Waterford; Sir Robert Peel, Ballyglene; Lady Carew, Woodstown; Lord James Butler; Mrs. Jacob, Newtown; Rev. M. Gilmour, rector; Robert Dobbins, Esq., Ballinakill House; Mrs. Alcock; Henry Morris, Belle Lake; Miss Hassard, who had first prize for table decorations. The fruit and vegetables were, as generally occurs, here particularly good. Villa Marina was as usual profuse in its hospitality, among the rest to the press, officers of the Society (Rev. J. D. Ford, Secretary), and the Judge.—W. J. MURPHY, *Clonmel*.



#### FRUIT FORCING.

**PEACHES AND NECTARINES.**—*Earliest Forced Trees.*—The leaves will soon be off (but there must not be any attempt to forcibly remove them, keeping them clean until the last), then loosen the trees from the trellis, cleanse the house, seeing to the needful repairs, painting the woodwork and trellis. Remove the mulching and loose surface soil, giving fresh loam with a twentieth part of steamed bonemeal and wood ashes in equal proportions added, affording a moderate watering if the soil be dry. Whatever pruning is necessary should be done as soon as the house is put in order, but if the trees have been properly attended to very little work will be required for the knife. Dress the trees with an insecticide. It is well to wash the whole of the trees with a soapy solution, say 4 ozs. softsoap to a gallon of water, adding a pint of strained tobacco juice, and if there be any scale a small wineglassful of spirits of turpentine, keeping it well mixed by frequent stirring. In applying insecticides, take care to reach every part, and use the brush in such a manner as not to disturb the buds. Trees cleaned and neatly secured to the trellis look far better than those left untrimmed until the latest period before starting.

*Planting or Lifting Trees for Early Forcing.*—Where new houses have to be planted and fruit is wanted at an early period the trees should be planted as soon as the growth is perfected, the wood and foliage ripe, and the buds plumped. The most suitable trees are those that have been trained three or four years to walls, and have been lifted annually or biennially. Those intended for moving to be started early ought now, if there is any tendency to a late growth or any doubt as to the maturity of the wood and buds, to have the soil taken out as deeply as the roots one-third the distance from the stem that the trees extend, and the trench should remain open a fortnight or three weeks, when it may be refilled; but do not allow the trees to suffer from insufficient supplies of water whilst the trench is open. All that is necessary, however, is sufficient to prevent flagging. This will effectually check the growth and insure its ripening, whilst it will materially assist lifting



with a mass of fibrous roots. Plant the trees for early forcing by the end of September, and lifting early forced trees should be commenced as soon as the leaves give indications of falling. It will not matter about a few sappy laterals, their softness will tend to the production of roots. Soil should be in readiness, so that work of this kind can be performed with the utmost promptness and despatch. Clean drainage, too, in different sizes must be provided and placed convenient. The soil may consist of any good loam, preferably rather strong and calcareous, nothing being better than the top 3 or 4 inches of an old pasture overlying limestone or chalk, and if intermingled with flints all the more desirable. Such will grow Peaches to perfection without any admixture. Any deficiency of calcareous matter may be overcome by an addition of chalk to sandy soil, and of lime rubbish to heavy soil. If light add a sixth of clayey marl dried, pounded, or finely divided; if too heavy add road scrapings. New borders must have efficient drainage, the bottom of the border being concreted if the strata beneath be unfavourable, or better laid with bricks on flat run with cement, the border being enclosed with walls so as to confine the roots, but the border must have 3-inch drains with proper fall and outlet, the bottom of the border, whether concrete or cement, falling to the drains. A border one-third the width of the trellis will be sufficient in the first instance, and need not at any time exceed the width of the trellis. Place rubble over the drains 1 foot thick, the roughest at the bottom and finest at the top, having 3 inches thickness of rather fine material as an upper layer, and if this consist of old mortar rubbish free of pieces of wood the drainage will keep sound indefinitely; 24 inches depth of soil is ample. The compost should be put together when rather dry and somewhat firm; in fact, it cannot be made too firm when the soil is light. The best varieties for very early forcing are Alexander, Early Albert, and Early Rivers. The finest of all Peaches for forcing is Stirling Castle; Hale's Early, Crimson Galande, and Royal George are superb. Of Nectarines Lord Napier and Dryden.

**Late Houses.**—With the fruit taking its last swelling liberal supplies of water are required until the ripening is well advanced, when moderate supplies will be sufficient; enough, however, must be given to maintain the foliage in a healthy state. Trees that are making gross wood, and have a tendency to late growth, can be marked for lifting, an infallible remedy for indifferent setting and uncertainty of stoning. Any young trees that do not ripen the wood well should be curtailed at the roots by taking out a trench so as to detach the roots about one-third the distance from the stem the trees cover on the trellis, doing it about the end of September or as early in October as the fruit is gathered.

**MELONS.**—*The Latest Plants.*—Preserve the leading shoot until it reaches two-thirds across the trellis, then pinch out its point, rubbing off the laterals up to the trellis, and then every alternate one on opposite sides of the primary. Maintain a temperature of 65° to 70° at night, 70° to 75° by day, 80° to 85° with sun heat, closing early so as to run up to 90° or 95°. Stopping the laterals should not be practised unless the plants are weak, and they do not show fruit at the second or third joint. Weakly plants should have the first shows of fruit removed, relying on sub-laterals. Early ventilation with plenty of light are the essentials of a thoroughly solidified growth.

**Plants in Pits and Frames.**—The last plants in these are swelling their fruits freely. Earth the roots if necessary, but late plants on dung-heated beds do not require much soil. Close early, affording the needful supplies of water at that time, keeping laterals well in hand, not allowing them to interfere in any way with the principal leaves. If the weather be dull afford good linings and admit a little air, as nothing is so fatal to quality in the fruit as a close atmosphere. Practise sprinkling only on fine afternoons. If black aphides attack the plants fumigate them on two or three consecutive evenings moderately. Examine frequently for canker, and promptly apply quicklime to the affected parts. Gradually withhold water at the roots and moisture in the atmosphere from plants ripening fruit, and if a little extra heat is afforded by means of linings so as to admit of a free circulation of air the quality of the fruit will be enhanced considerably.

**CUCUMBERS.**—Encourage the plants for autumn fruiting to make a strong sturdy growth by adding fresh soil from time to time, affording plenty but not overmuch water at the roots, with a moist genial condition of the atmosphere by syringing at closing time, and damping available surfaces occasionally. Sufficient fire heat must be employed to prevent the temperature falling below 65° at night, and to maintain it at 70° to 75° by day. Old plants should have exhausted growths cut out, and others where likely to be crowded thinned, so as to admit light and air, securing solidified growth and a succession of bearing wood. The syringe should be regularly employed about 3 P.M., and if mildew appear dust with flowers of sulphur in the evening whilst the foliage is damp, maintaining a somewhat freely ventilated atmosphere. In bad cases ammoniacal carbonate of copper solution may be used, 1½ oz. precipitate carbonate of copper being dissolved in a pint of liquid ammonia, and a fluid ounce of the solution added to each gallon of water, the plants being well sprayed with the solution, or if syringed it must be through a fine rose and disposed as much as possible in a fine mist. The preparation of sulphate of copper with lime, known as "antiblight," is equally effectual, and being in powder is handily applied with bellows, the "Malbec" being specially suited for applying powders to the under side of the leaves of infested plants. Black aphides are sometimes troublesome at this time of year. Those and all aphides succumb to repeated fumigations with tobacco paper, taking care to have the foliage dry, to deliver the smoke cool, and not give an over-

dose. We find it best to fumigate in the evening and repeat the dose early the following morning. If seed is wanted any knobby ended ones should be left. They come freely enough on old plants, if not impregnation will have the desired effect.

Houses that are to afford a supply of fruit at Christmas should be cleared, removing every particle of old soil, and thoroughly cleansing, repairing, or painting the house before it is wanted. Pot the plants as they require it, keeping well up to the light, and place a small stick to each, grow the plants without stopping, rubbing off side shoots as they appear to the height of the trellis. Plants in frames that have been in bearing some time will be restored to vigour by a good thinning out of the old growths and the addition of a little fresh loam, giving a moderate watering, and a sprinkling overhead on bright afternoons, closing at about 3 P.M. With linings and protection of mats over the lights Cucumbers will be produced for a lengthened period.

#### PLANT HOUSES.

**Crotons.**—Where small plants are required in large numbers for decoration during the autumn and winter in from 2 to 4-inch pots very few plants surpass Crotons, either for beauty or lasting properties. To have them in good condition they must be highly coloured or their effectiveness is lost. Well coloured side branches should be taken off at once and rooted in the pots in which they are to be used. Cuttings of a suitable nature should be plentiful on plants from which the heads were taken and rooted some time ago. We invariably find the smallest cuttings with three or four well developed leaves very useful in thumb pots. It is useless to insert cuttings that are not fairly well coloured, for they will not improve after the end of September. As soon as these small plants are rooted gradually expose them to full light and sunshine close to the glass, and if the weather prove bright for a few weeks the colour of their foliage will be highly developed. The Crotons intended for autumn and winter decoration should by now be placed in their largest pots—in fact, only the best rooted should remain to be potted, and these must be attended to at once. All our plants are well established, and will soon have grown as large as they are desired, while the beautiful markings of a few of the young leaves near the top only need developing. Where the plants have been grown close to the glass they should be examined for fear red spider has attacked the young leaves. This pest, if in existence, will quickly spoil the appearance of the plants. The quickest and easiest means of destroying the pest is to dip the plants in a solution of softsoap and water, 1 oz. of the former to a gallon of the latter, to which should be added a handful of sulphur. This may be left on the plants two or three days, and then thoroughly washed off with clean water, and the syringe used twice or three times daily.

**Panicleum variegatum.**—A good stock of this useful decorative plant should now be prepared by inserting cuttings thickly in 2 and 3-inch pots. After insertion a good watering should be given and the pots stood in the propagating frame and shaded until they are rooted. Grow the plants afterwards under moist, shady, warm conditions until they are well furnished, when slightly cooler treatment may be given them.

**Tradescantias.**—Large numbers of the variegated forms should be prepared by inserting about five cuttings in each 2-inch pot. These will root freely enough on a high shelf or any other position in heat if shaded for a few days from the sun. A few boxes may also be filled so that the plants can be lifted out for various purposes when vases and baskets have to be made up with a variety of small plants.

**Fittonias.**—These are highly ornamental in appearance when dotted amongst small Ferns and other suitable plants near the edge of large baskets or vases that have to be regularly furnished. The plants required first should be rooted singly in 2-inch pots, and quantities of others in boxes and pans for lifting out when required during the winter. If they can be used in small pots two or three weeks is ample to establish them, and they can be potted from the boxes in batches as required.

**Bertolonias.**—This is a good time to root a number of these as well as Sonerilas. Young plants pass the winter with greater certainty than those that have been growing luxuriantly the whole of the summer. The established plants need not be destroyed for this purpose, for cuttings near the base of the former will be found, and young growing shoots from amongst the latter should be selected without destroying the appearance of those now doing duty in the stove. These cuttings should be inserted in light sandy soil and kept close, moist, and shaded until thoroughly established; in fact they will winter better in the propagating house than the stove, where more airy conditions will presently be maintained.



#### SEASONABLE HINTS.

##### TAKING HONEY.

IN all districts the light-coloured honey harvest is practically at an end, and no time should be lost in taking the same from the supers, whether we are working for comb honey in sections or for extracted honey. If we delay our sample will be spoilt by having the darker honey mixed with it, and any additional weight we might



obtain would reduce the price of the whole, so that we should be no better off; and if a dull time follows with cold nights it is more than likely that any unsealed honey would be carried down into the body of the hive. In the body of the hive a good deal of comb space is now empty, the brood having hatched out, and I would strongly recommend that any honey collected after this time should be left in the hive to make up the stores for the bees to winter upon.

#### EXTRACTING FROM THE BROOD COMBS.

This is a plan that is most prejudicial to the well-being of a colony, and is never thought of by modern bee-keepers. We ought to be satisfied with the honey we are able to take from the supers, interfering with the frames in the body of the hive as little as possible. Extracting the last pound of honey and then feeding with syrup is a waste of our time, and an unnecessary wear and tear to the bees. It is often the cause of spring dwindling, the old bees being worn out before others are hatched to fill their places by the additional labour entailed by artificial feeding. My experience teaches me that those colonies of bees having sufficient food stored in the natural way will winter best and be ready to take advantage of the early pollen and any honey flow from fruit blossoms or other sources, giving us more than compound interest in good honey, for that left them in the fall of the year of an inferior kind.

#### SUPER CLEARERS.

The want of some ready way of getting bees from supers has long been felt, and many attempts have been made to invent something for the purpose. The first of these inventions was that of Mr. Aston in 1873, advertised as a bee and drone trap. There is also a description of one on page 56 of "Bee-keeping for the Many." Mr. Cheshire in 1874 obtained a prize at the Crystal Palace for a pin trap. Nothing of real practical value was invented until last year, when two or three came before the public, and each has its advocates. "The Cone Super Clearer" is the simplest, is most useful, and facilitates the removal of supers with the least possible disturbance to the bees. A cone made of zinc is fixed in the gable of the hive at both ends close under the projecting roof; holes are bored the size of the large end of the cone, in which they are fixed, the small end projecting, so that when the roof cover (which must fit accurately) is in its place the only light comes through the cones. We proceed as follows:—Raise the cover, blow a little smoke into and under the super, which take off and set on one side for a moment, whilst putting the quilts carefully on the frames of the hive, making all secure below. The super is then put back on the hive, communication having been cut off. The super covers, quilts, being taken off, the roof is closed at once, the bees make for the light coming through the cones and escape, having no means of communicating with the hive. Another form is that of an adapting board, having several small cones fixed on it, and having a fillet on the under side gives a space for the bees to get over the frames and out of the cones. If this super is lifted on to a board it may be taken away and put in a suitable place, and left for the bees to get out by degrees. In this way a quantity of honey may be taken in a short time.—JOHN M. HOOKER.

#### PUNIC BEES.

In the *Journal of Horticulture* for July 23rd, "A Lanarkshire Bee-keeper," who has two or three imported queens, says if the smallness of these bees is not against them everything else is in their favour. He has written to me asking if, in my opinion, their smallness is any detriment, and as I have been too busy to reply, and there may be many others wishing to know, I think I cannot do better than write an article for all the world to read.

Long before I saw or heard of a Punic bee I was satisfied that small bees would gather more honey than large ones, or rather they "should" do, according to all scientific laws. If honey could be collected from filled casks then large bees would have the advantage; but it is not so gathered. A bee has to visit many flowers before it fills its sac with honey, and in its expended energy of going from flower to flower a certain amount of honey is consumed to supply this expended energy. Now, no matter what it is you are dealing with, whether a bee, horse, steam engine, or

anything else that gives out force—i.e., performs work, the greater the work done the greater will be the consumption of fuel, whether in the form of coal, grass, corn, or honey, and as a large bee would require more force to move it there would consequently be less honey in its sac than a small one, although both visited as many flowers side by side in a given time—that is, assuming that each bee was of equal strength according to its size. But there is another natural law to consider—viz., that the ratio of strength compared with the bulk increases as the size of the animal decreases; thus: if an elephant were as strong as a flea in comparison to its weight it could about jump over the moon. The point may also be considered from the following standpoint:—1000 Punic bees are about equal in weight to 700 Carniolians. Now if each bee of the two kinds visited the same number of flowers per day, and took the same quantity of honey from each, the 700 Carniolians would consume just the same quantity of honey that the Punics would, and yet the latter would have the gathering of 300 bees extra without any deduction for food, because, bear in mind, it is not numbers that consume, but "weight" when the food is expended in energy or work. The above is simply a scientific deduction, assuming that all bees are of equal strength in relation to their size.

But as I have pointed out, we must look for greater relative strength as size diminishes; and to show that Punic bees are very much stronger, I will relate the following that came under my observation a few days ago. I found a stock of Carniolians with a quantity of sealed drone brood, and not wishing it to hatch I removed the cappings, decapitating the drones, and gave the comb to a small stock of Punic bees to clear out and replace with pure Punic drones if they would. Any other bees would have simply dragged them out of the hive, because too heavy to fly away with; but these little puny-looking Punic bees actually flew away with the Carniolian drones quite as readily as British bees would have flown away with a dead Punic worker bee. What was the cause of this enormous strength? Was it because the bee had less weight to carry in its own body, or because it was actually stronger? I believe the latter is the true theory. Hence we have a bee with less weight to carry in its own body, and with more strength to carry it, and herein lies the explanation of the fact that pure Punic bees are better than hybrids, as hybrids are all larger, and have therefore more weight to carry.

I have also been asked if they swarm as much as Carniolians? to which I can answer both yes and no. When Punics resolve to swarm they make tremendous preparations, constructing hundreds of queen cells. The stock may be of enormous strength, and working in full blast, with no sign of a swarm. All other bees cease work for three days before, and Carniolians six or eight days; then all of a sudden off comes the prime swarm with the old queen, which with me has invariably dropped on the floor in front of the hive, where she will be seen stroking herself. If the bee-keeper is sharp he will catch and cage her, and hang her with the swarm when it shows signs of settling, when he can hive it any time; if on an old stand by simply removing the queen. This first swarm is never very large, the second swarm being generally as large or larger, which may come off the day after the first. They will go on swarming day after day, and each swarm will quickly settle down to work. Thus it will be seen they are liable to throw off as many swarms as Carniolians. But there is this difference between them: Carniolians will swarm without leaving a queen cell behind, Punics never do this. Carniolians will remain idle for three to eight days before swarming, Punics not three minutes. Carniolians will swarm in bad weather and leave not a drop of honey behind, Punics never do this. If the weather is bad they will not swarm at all, and will destroy all queen cells, although they preserve them until the young queens begin piping. Strictly speaking they are less inclined to swarm in this country of any bee, at the same time they may throw five or six swarms in one week. I have also described them as "non-stinging." One person wrote me to send him a queen if I would guarantee them not to sting. I could not give this guarantee absolutely, because they can and will sting when provoked to it, also if treated roughly when they are getting ready to swarm. What I say is this, they are tamer than Carniolians; and practically, that is with ordinary management, non-stinging.

I have received some very flattering reports of what they have done as hybrids. All know how "A Lanarkshire Bee-keeper" praises them, how last year the weakest nuclei built up and beat his best stocks by 9 lbs., and how they have stored three times as much honey in one day of any other bees. Mr. William Stokes, Balnastraid, Carr Bridge, Invernesshire, a well-known Scotch bee-keeper, says, if he can get half a dozen more queens like the one he had last year he will consider himself a lucky man, as the one has left all his others fifty stocks, a long way in the rear. Mr. R. Robinson, Exchange Arcade, Hawick, another well-known



Scotch bee-keeper, though a native of Yorkshire, had a queen very late last year, and this is what he says, dated July 9th, 1891:—"I considered the queen I got from you a useless little thing, and thought of killing it; however, I put it into a three-frame nuclei, and let it fight its own way, live or die. At the back end I found the queen had done more than well, so I gave her three more frames of comb and covered up for winter. To my surprise this March I found it as good a stock as any I had out of forty. I have taken fourteen 1-lb. sections from it—the best from one hive about here. I have Carniolians, Italians, blacks, and hybrids of all kinds." I can give many more such as this, but I must not omit one from the south that beats all in the way of testimonials. I sent Mr. Thomas Ford, Keynsham, near Bristol, four virgin Punics last year. He wrote about July 25th as follows:—"I received the four Punic queens safely, and introduced them into nucleus hives. On examination yesterday I find two of the queens have commenced laying, but in the other two hives there is not a bee or any honey left. Will the two nucleus hives build up into two stocks in time for winter?" On May 21st, 1891, he writes from Warbrough Green, Warbrough, Oxfordshire:—"The four Punic queens I had from you last summer have given me good satisfaction; they have built up into four very strong stocks, and I put supers on each of them last Thursday. They are on ten frames each, which I consider very good." So it seems from this that two queens without a bee or honey built up into two ten frame stocks, which, considering the late spring, is better than the average of stocks in good condition. Of course he wanted more of such queens, and no wonder. Who would not?

It is now well known that I first received these bees safely in 1886; the attempt in 1885 proved a failure, only one worker bee landing alive. As soon as I was satisfied of their superior qualities I tried to get more, but could not, up to the end of August last year. I have had very many difficulties to consider and overcome. The first arrangement with my agent was to send boxes for fifty stocks from here, and have as many stocks sent direct; but when we began to inquire how many times they would be handled, and by how many porters, each speaking a different language, and none perhaps understanding bees, it seemed to be very improbable that I should receive any alive. So fresh arrangements had to be made, which consisted in getting the stocks up to the nearest post office, and then sending the queens forward by mail, the stocks of bees being then of no further value. Fifty stocks were obtained from the natives, and as many queens sent on to me, more than thirty of the first reaching me in fine order. I was so pleased with the condition of one lot that I sent it forward to America, after being here four days, just as it came, and it arrived safely without a dead bee. After thirty had come safely, eight came with two dead queens, then three dead out of four, there being eight which arrived dead in all. There was also a loss of two before introduction, and five have failed to lay, including one sent to America. In addition to these losses there are large numbers that do not come up to my standard, more than half, of what a breeding queen should be, and which I should not think of either selling or breeding from. There are, to make up for all these losses, some really splendid specimens, which alone are worth the trouble and expense, for breeding purposes. I am charging £5 5s. for them in this country for what I have to spare, and I must say that I consider them cheap at the price. Do not think, Mr. Editor, I am putting this off for an advertisement, it is to prevent folk writing me for a queen on the expectation of getting one for 5s. I do not care to sell any at all until their extraordinary qualities are recognised, still when I can oblige anyone I like to do so.

If I could depend on only getting the very best queens without any loss, possibly, when things were in good working order, they could be had for a comparatively low price, but I have no hopes of this for some time. Besides, when the demand springs up, which it is sure to do, the prices will have to be high to keep the demand and supply balanced. I am afraid that I could not count on more than 100 queens any season; besides, if this number passed through the post office they would be noticed and stopped, and without the post we could not get them safely, as the time occupied in transit would mean certain death. Some of our American friends seem to be trying to draw the "red herring" across these bees. Mr. Root, in "Gleanings in Bee Culture" for June 1st (page 484), says:—"It is admitted they are bad propolisers." This individual prides himself on speaking the truth. What I said—and no one else has mentioned their propolisising propensities—was, "They fill cracks or chinks with an enormous quantity of propolis, and if natural supplies fail nothing 'sticky' comes amiss, but with it they keep their combs clean, and thus make anything do for hives—even baskets." It will be noted that no admission is made of being "bad propolisers." If they daubed propolis over their beautiful white clean combs then they would be bad propolisers, but when they put the substance in its right place only I insist that they are good

propolisers. Since I wrote that I have learned that the natives keep them in rude wickerwork hives, and the bees have to fill all the little holes in their hive sides, which may have developed the propolisising instinct.

Another writer in the American "Bee Journal" for June 11th, page 766, signing himself "Veritas," says, "The Punic bee originated during the second Punic war, and was a cross between the African pissmire [ant] and the Roman mosquito." Well, if he is "Veritas" he must know, because he verifies all things; and if he knows so much cannot he cross the Punic bee with some of the numerous American insects, and so produce the veritable *Apis americana*? He has plenty of subjects over there to "operate" on.

Mr. D. A. Jones, Editor of the Canadian "Bee Journal," publishes the hope that bee-keepers will let some other fellow try them first. Is this so that he can get the start, or is he afraid Punics will get all the honey and leave none for his bees? Depend on it this will be the result where tried, for such is the six seasons' experience of—A HALLAMSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

- E. P. Dixon & Sons, Hull.—*Bulb Catalogue for 1891.*  
 J. Carter & Co., 237 and 238, High Holborn, London.—*Bulb Catalogue, 1891.*  
 William Baylor Hartland, 24, Patrick Street, Cork.—*Floral Album of Daffodils and Bulb List, 1891-92.*  
 B. S. Williams & Son, Victoria and Paradise Nursery, Upper Holloway.—*Catalogue of Bulbs.*  
 Sutton & Sons, Reading.—*Bulb Catalogue for 1891.*  
 James Veitch & Sons, 544, King's Road, Chelsea.—*Catalogues of Hardy Trees, and Shrubs; Hyacinths and other Bulbs.*  
 Wm. Paul & Son, Waltham Cross.—*Catalogue of Bulbs.*  
 Pitcher & Manda, Hextable, Kent.—*General Plant Catalogue.*  
 Dicksons, 1, Waterloo Place, Edinburgh.—*Flower Roots for 1891.*  
 Cooper, Taber & Co., 90, Southwark Street, London, E.C.—*Bulb Catalogue.*  
 Leonard Coates, Napa, California.—*Catalogue of Trees and Fruits.*  
 William Bull, 536, King's Road, Chelsea.—*Catalogue of Tuberous Plants and Bulbs.*



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Gardener's Dismissal (B.).**—If a gardener is paid weekly wages he cannot claim a month's notice from his employer.

**Tomatoes (D. Arkell).**—The stamped envelope you enclosed was posted the day it was received, and we trust it reached you, though the address appeared incomplete.

**Seedling Tropæolum (E. F. G. G.).**—It is a rather uncommon colour, but we have seen similar varieties before. It would not be so useful for bedding purposes as a good scarlet or pure yellow.

**Seedling Tuberous Begonias (J. S.).**—The variety is a good one. The flower sent is of capital form, and the colour is pleasing. By all means preserve it if all the other flowers are equal to that sent.

**Peach Fruit Hard (R. P.).**—The fruit is very heavy and beautiful to look at, but is very firm and stringy, with little juice. We do not know of anything likely to cause the tree to produce tender, melting, juicy fruit. It certainly is not worth growing, and the sooner it is removed and another useful variety planted in its place the better.

**Tomatoes (A. D. S. K.).**—Certainly we should save seed from those plants which are so superior to the others, assuming that the crop on them is satisfactory. Some varieties of Potatoes resist fungoid attacks much better than others, and it is prudent to grow them when they are in other respects good; and the same remarks apply to Tomatoes.

**Slug Worms on Pear Trees (G. E. B.).**—The leaves sent are seriously injured with the larvæ of one of the sawflies (*Selandria*), which deposit eggs early in summer, the "worms" subsequently appearing, and eventually they form cocoons, and passing the winter a few inches below the surface of the soil. Dusting with lime freshly slaked from lumps



will destroy the slug worms, and the earth should be removed from round the stems of the trees to an extent of 2 feet in winter, giving a good dressing of lime, and covering with soil obtained more distant from the trees.

**Changeable Clematises** (*Old Subscriber*).—The specimens you sent are interesting as demonstrating a fact that is not recognised by all—namely, that all flowers are modifications of leaves. The coloured parts of Clematises, usually called flowers, are not even petals, but sepals, the normal colour of which is green, but these change in texture and colour into floral appendages. In your specimens the change is seen in operation, half, more or less, of the sepals being in the green leaf form, the other portions in the coloured or floral form. These changes are more liable to occur in dull wet seasons than in hot dry summers.

**Propagating Tuberous Begonias** (*T. E. B.*).—An easy method of striking cuttings of these plants was described on page 145 last week, but this has reference to the luxuriant growths of plants in beds, not growths hard and exhausted by flowering, and which have no buds in the axils of the leaves. For increasing choice varieties by cuttings these should be taken when the growths are long enough and before any flower buds are visible, and placed in a warm pit for striking. When the growths are an inch or so high the tubers may be divided if desired, dressing the cut parts with pounded charcoal. Plants may be increased by any of those methods. If there are no buds in the axils of the leaves near the base of the cuttings the tubers are apt to “go blind.” Subject to the presence of those buds, stout healthy growths, and few or no flowers, cuttings may be inserted at the present time.

**Peaches Decaying** (*M. S. P.*).—The decay is caused by a fungus, *Glaeosporium læticolor*. It is by no means rare, but is rather too common, and becomes more so because means are not taken to prevent its spread, the affected fruits being left about and thrown anywhere but into the only safe place—a fire that will consume them speedily. The fact does not seem to be grasped that fungi are propagated by spores like other plants; but it is important that this should be known, and all affected fruits consigned, without loss of time, to the flames. That is a certain means of localising the disease, and, taken in time, an effective agent in preventing its recurrence. The disease affects Apricots, Peaches, Nectarines, Figs, and even Grapes. It usually attacks the finest fruits in consequence of their cuticles being extremely thin owing to their distension by the high swelling. Thus highly swelled fruits are the most readily pierced by the germinal tubes, as seen in Peaches of the Early York, Bellegarde, and Violette Hâtive varieties, in Brown Turkey Figs and Muscat of Alexandria Grapes. The only preventive is free ventilation in all the stages of growth, with available mineral elements in the soil, so that the epidermal tissues will be strengthened and hardened and made fungus proof, along with a free circulation of warm, rather dry air during the ripening process. The disease is most prevalent in heavy soils and damp locations, but it will prevail anywhere and everywhere where the conditions favouring its development are present along with the spores. Destroy all affected fruits with as little loss of time as possible.

**Yellow Thrips Infesting Grapes** (*W. J.*).—The pest infesting the Grapes is no doubt the *Heliothrips ochraceus* of Curtis, which pierces the footstalks of the bunches and sucks out the juices of the berries, causing them to have a rusty and very disagreeable appearance. It is narrow and linear, of a bright deep ochreous colour, eyes black, horns six jointed and brown at the tips, three ocelli in its crown, body hairy, tip pointed and bristled, wings shorter than the body in the male, and fringed, feet dusky and bladdered. At the tip of the body a globule of blackish fluid may be seen, and this is frequently deposited, forming innumerable spots of glutinous matter, which disfigure the fruit attacked. There is no better remedy than fumigation with safe tobacco paper. It is best done on two consecutive evenings, or in the evening and early the following morning, then follow in two or three days, and again in another week, when the pest will be subdued; but the fumigations must be effectual—that is, the house filled with smoke each time. Its prevalence is no doubt due to infection from some quarter. It is easily conveyed by persons with insects on their clothes, such as young men having care of plant houses and having to attend to the ventilation of vineries; besides, the insects have wings. The pests hibernate, and may seek and find resting quarters before it is safe to adopt measures for their destruction, but the chief thing is to destroy them as they hatch from the eggs, and this persisted in will soon effect a clearance. Thorough cleanliness and winter dressings must not be neglected, and a moist genial condition of the atmosphere acts prejudicially upon the insects, but it cannot always be accorded. The essential condition of its extirpation is to prevent its passing the winter by destroying it when active. Efficient and consecutive fumigations at not more distant intervals than a week effect that desirable object.

**Linaria vulgaris var. Peloria** (*J. R. S.*).—The accompanying illustration (fig. 25) will convey a better idea to you than a written description alone. It is an example of a peculiar phenomenon that is occasionally observed in flowers, and is termed Peloria. This consists in the transformation, or, according to some botanists, the reversion, of what are usually irregular corollas to a regular form. For example, in the Linarias and Antirrhinums the corollas, as is well known, have commonly a two-lipped form, to which the term “personate” is applied, the chief difference between the two being that the corollas of the Linarias are furnished with a spur at the base and those of the Antirrhinum are without this appendage. In the case of the variety Peloria, however, this two-lipped form quite disappears, the upper part assuming

a conical shape with the extremity five-cleft and sharply revolute, the base being furnished with five spreading spurs, giving the flowers a totally different appearance. The species itself is an attractive plant, but this variety is superior to it, as the flowers are produced so abundantly that they form a dense spike 6 to 9 inches or more in length, and of an extremely pleasing yellow colour. As a garden plant it is much appreciated both on account of its peculiarity and its beauty, and as it is readily increased by its roots a stock can soon be obtained. Occasionally fine specimens may be seen at exhibitions where classes are provided for hardy plants, and they form some of the most effective for such collections. Though not very common, this Linaria has been long known both to cultivators and botanists, and in the sixth fasciculus of

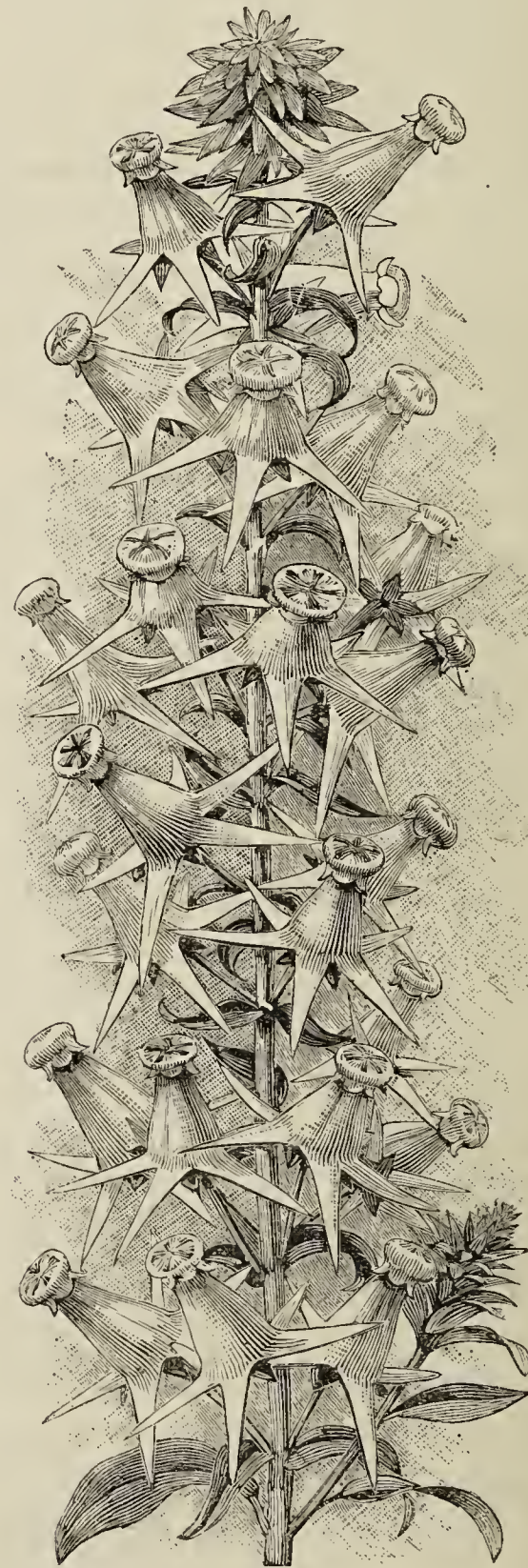
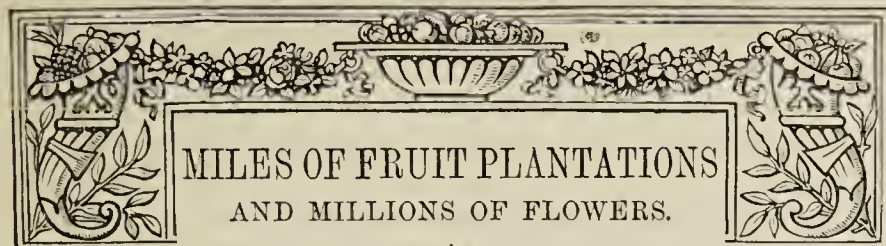


FIG. 25.—LINARIA VULGARIS VAR. PELORIA.

Curtis's “Flora Londinensis” are given some interesting particulars concerning the history of the plant, as follows:—“The earliest account that we find of the Peloria is in the first volume of the ‘Amœnitates Academicæ’ of Linnæus, published in 1749. It there forms a distinct thesis or dissertation written by Daniel Rudberg, who enters minutely into the history of the plant, describes it fully, and illustrates it by an engraving. The plant appears to have been first discovered in the year 1742 growing in a province of Sweden about seven miles from Upsal by a botanical student named Zioberg, who gathered a specimen of it and placed it in his herbarium as a plant he had not met before.” Professor Celsius observed this specimen, and called the attention of Linnæus to it, who secured plants for the Botanic Gardens at Upsal. Linnæus, it is said, at first considered it a new genus, but further examination proved that it was only a variety of *Linaria vulgaris*, or *Antirrhinum Linaria* as it was then termed. Plants of the variety Peloria have been found wild in several parts of Great Britain, but it is very rare.





IT is sometimes difficult to tell the truth on a matter without being suspected of exaggeration, but in this case it is impossible to exaggerate, and only facts will be narrated, plain, incontrovertible, sober facts. It is beyond all question that on a fine day, or nearly so, early in the present month miles of fruit plantations were traversed and millions of flowers seen and admired. Either one or the other of these would suffice as affording material for a page of the *Journal of Horticulture*, but as they were seen together, so to say, they must be referred to together at the risk of each detracting from the force of the other; though both undoubtedly, and in association, show in a remarkable manner the outcome of industrial enterprise and great business aptitude in creating wealth to the advantage of a community. The pioneers in the work of changing the character of a district in and from which hundreds of families obtain the means of subsistence in the place of tens, or even of fives, a few short years ago, ought to be the chief beneficiaries, and it is gratifying to observe that they appear to enjoy a goodly amount of prosperity, with the pleasant addition of the respect of the surrounding population.

A good deal is heard from time to time of over-population, of the people not having room to live in the old country, and of the desirability, therefore, of the formation of relief colonies in other lands. Unfortunately it is too true that there are congested districts not capable perhaps of material industrial development, but there are many more of an entirely different character, which only need capital, enterprise, and labour to increase their productiveness and value tenfold, and afford means of livelihood to ten times more families than the few that now struggle for existence. Given what may be termed favourable concrete conditions, fertile soil, fair elemental influences, and direct links, in the form of railways, with the great centres of population, and there is good hope that industrial colonies as happy and prosperous may be founded in the Old World as in the New. The "resources of civilisation" as applied to soil cultivation are not yet exhausted at home, and the best and most has not yet been done in meeting the wants of the nation by the nation, with something to spare for other nations in the form of fruit, plants, and flowers which make the millions who enjoy them the happier by their possession.

What has already been accomplished in some localities in the direction indicated demonstrates, if anything can demonstrate, the possibility of greater achievements in others. That vast tracts of land have depreciated in value during recent years is a deplorable fact, but it is not less true that there have been more exceptions to the deterioration than is generally supposed; and it is well known by many workers that the rental of hundreds of acres of land devoted to purposes of cultivation has been substantially increased. It may appear a bold statement to make, but it is true, that through a change of culture alone, from poverty stricken herbage and weedy corn fields to the production of fruit and flowers, the value of much land has not been doubled or trebled merely as represented by increased rental; but instances could be narrated in which the rise has been tenfold in about half a generation. Naturally it will be thought, if not said, that such results must be entirely exceptional. There is not the least desire to suggest that they are otherwise. Let it be admitted that the cases are distinctly and absolutely exceptional, and what then? Simply that they

exist, and do not they carry with them much significance? No evidence is said to be so cogent as that founded on accomplished facts, and that the facts alluded to are as stated those who pay and those who receive the rents know full well. Nor is it suggested that similar results are attainable everywhere, for they are not. Landowners differ, tenants differ, and soil differs; but when all are good together the standard of productiveness is bound to be raised very considerably.

But where has the progress in question been made? Where can the miles of fruit plantations and millions of flowers be seen? In the neighbourhood of Swanley in Kent. The object of a visit to this district was to verify a statement that nearly 500 tons of Strawberries had been sent from Swanley Station in July, and nearly 80 tons in one day; also to try and gain admittance to Mr. Wood's jam factory and see what was going on there. Both desires were accomplished. The one that was thought to be the most difficult in the easiest possible manner—seeing the great fruit-preserving establishment. Quite unexpectedly the first person met with at the station was Mr. Cannell. "Ah, good morning, my friend; good morning, very pleased to see you. Come along" (just as if he thought I had gone to see him alone). "Yes," was the response, "with pleasure, if you can just get me into the factory there, as I am on a fruit prospecting expedition." "All right," was the rejoinder. "I see—you just do what I tell you, and you shall see something—fruit growing, fruit picking, and fruit boiling; miles of trees, and the most beautiful country in the world. Been abroad have you? Yes; well there is nothing like it abroad—come along, and if you are satisfied with the fruit you shall see some flowers." I feared when I met the floral pioneer of Swanley he would if he could keep me all day among the flowers, as he is such an enthusiast. It is due to him to say he did not attempt anything of the kind. He spent far more time in showing the fruit of others than the flowers of his own. He is no doubt proud of his work as he ought to be, but he is not less proud of the work of others, and of what has been done in the district in which he dwells. He found Swanley with a roadside inn, a few scattered cottages, with no industries, no population worth naming, because there was small demand for labour on the farms when under grass or agricultural tillage; but a change ensued, he established himself there, let the world know it in a proper and profitable business way, and Swanley, which hitherto was unheard of beyond a local radius, became a familiar name throughout the civilised world. His energy and enterprise had a stimulating effect on others, the favourable nature of the soil for fruit culture was recognised, and facilities for distribution perceived. Farmers who grew some fruit extended their operations until hundreds of acres were devoted to Strawberries and Raspberries, mainly in the place of Potatoes, Wheat, and weeds. In the meantime his own business increased. His increasing number of workpeople required homes. He commenced building. The labour demand grew with the extension of fruit culture, and others found it both necessary and advantageous to erect houses for the workers in turn, and the work still goes on. What with glass and cottages, half of the tract of land, about half a mile long, originally obtained by Mr. Cannell will soon be roofed over, and the cottages are still, row after row, creeping down the hill, and will soon be in touch with his own residence at the foot. The whole ground at least down to the forty or fifty ranges of glass in the valley seems destined to be eaten up, and perhaps the glass will go in turn, who knows? Mr. Cannell appears to be alive to the coming change, and hence his acquisition at Eynsford. On his 300 acres there he has not only "somewhere to go," but has in great part gone, for he has built himself a much larger house there than the one he built at Swanley.

The increase of population, tenements, wealth is almost wholly due to flowers and fruit. Wealth! Yes; Mr. Cannell's ground, previously let for less than a pound an acre, could not now be



had for a ten-pound rental; and the once practically worthless poverty-stricken acres secured on long lease by Mr. Ladds have increased in the same remarkable manner by his enterprise and extraordinary business capacity. He, too, is building all around. Then there is Mr. Wood—a man who, by persevering endeavour on sound lines, has made himself a great position; while Mr. Vinson, a little further afield, who has been longer engaged in growing fruit, and kept abreast of the times in production, is one of the wealthy and worthy inhabitants of the district. It is not, however, the wealth acquired by the few that is the most gratifying feature, but the means of livelihood afforded to an army of workers where formerly a few settlers or stragglers gained fitful subsistence. The great problem of the day is to find work for workers who are willing to labour, and this, obviously, cannot be done when their work is not remunerative. The problem appears to be solved in the district in question, and in no other way could it be solved so well—namely, by capital wisely invested, and operations prudently conducted by able and intelligent men. If the thousands of wage-earners who work on the land had each been planted on a little patch, not even a remote approach to the present productiveness of the whole could possibly have been realised. A combination of the three essentials—capital, skill, and labour—was requisite for achieving such great results. It is well, indeed most desirable from several points of view, that men who can work small plots advantageously should have them as adjuncts to their wages, but these earnings must be the sheet-anchor of the vast majority, and are provided by fruit and flowers in the fertile neighbourhood under notice to thousands who could not otherwise enjoy them. We read of the wonders wrought by labour in the western wilds of America. Numbers of thrifty and lazy men are tempted there; a few to succeed after strenuous endeavour, but most to starve. Knowing a little—not from newspapers—of the state of things in the “far West,” I suspect it would be difficult to find in those “virgin lands” instances of half the money being earned by and paid to workers on and from a given area, that is produced by the renovated soil and methods of cropping and working adopted on the fertile slopes in the salubrious district of Kent contiguous to what may not be inappropriately termed the flower and fruit station of Swanley Junction.

But the fruit factory. We are a long time in reaching it, though it is close at hand. After all, I was fortunate in meeting with Mr. Cannell, for we walked straight into it as if he were a proprietor and I a purchaser of a few hundreds of tons of jam and bottled fruits for exporting to those parts of the world where similarly preserved fruits cannot be grown so well and prepared so cheaply. We have soil as fertile, or which can easily be made so, as any in the world for the growth of these fruits; we have a more temperate climate, just what they need, than prevails either in Central Europe, or in Asia, Africa, America, or Australasia; we have the best of sugar at the lowest price in the world, and therefore, practically speaking, we have the world at our feet as a market for distribution. The fruits in question are the most certain of all to afford crops to the cultivator. One kind may be scarce this year, and another the next; but a general failure is unknown, and if any particular crop is scarce the grower has compensation in higher prices. For instance, this year a hundred tons of Raspberries were wanted by a firm at £50 a ton, and could not be obtained; next year they may be plentiful at half the price. One year a Gooseberry grower sells his produce of a heavy crop of 30 or 40 tons at £10 a ton; another year, with a light crop, he obtains more than twice the price, and scarcely knows which he prefers, but is well satisfied with the average. Plum trees are sometimes almost broken down with fruit, and quantities are not worth sending to market; but with jam factories handy the crops in a year of plenty can be preserved, and a supply insured for a year of scarcity which is apt to follow. Mr. Wood has three preserving establishments—two in Kent and one in London, the last named erected at a cost of upwards of

£60,000. The trade in which he engages must be a gigantic one, and his last costly erection proves his faith in the future.

Work in the Swanley factory was going on briskly. Three thousand pounds' worth of white lump sugar was piled up in bags and bins. Preparing fruit and boiling was going on. All appears to be done by steam except “stalking and nosing” Gooseberries, which is done by the nimble fingers of women and girls, but seeing that Black Currants can be dressed by machinery and left whole when desired, the large being separated from the small at the same time, perhaps machinery will master the Gooseberries by-and-by. It can nearly do everything. In Mr. H. R. Williams' gigantic wine cellar in London bottling is not only done by machinery, but a machine prepares the corks and throws out the bad ones; and I have seen a machine of Mr. C. M. Major's husking coffee and refusing to let any light or bad berries pass the barrier into the collecting sacks. It is much the same with Mr. Wood's Currant dressing machine; it rubs off their noses on rapidly moving wire trays down which they go dancing, the large into one receptacle, the small into another, in the same way that Potatoes are sorted by machines on large farms. But all fruit is not preserved whole at Swanley. There is a large section of the consuming public who will not be “imposed on” by such fruit, but want “real jam,” fortunately, perhaps, for the makers, who willingly pulp it for them. Currants were passed down a hopper into a wire-woven cylinder, inside which brushes revolved, pressing against the wires, the pulp being squeezed from the fruit, and the stalks turned out as clean as if washed. This jam is what a certain class of customers like, others like some whole fruit with it, and others, again, prefer all whole fruit. All can be accommodated; but this must be said, in whatever manner prepared nothing but good sound wholesome fruit was seen in the factory, and that there is not a doubt that every jar is genuine.

The boiling is done by steam in twenty or thirty coppers, each holding two or three bushels of fruit. They are double-cased for affording space for the steam, which is turned on by a tap. Boiling commences in a minute, and is fast or slow as desired, being controlled by the tap, with the same certainty as a jet of gas is lowered or raised. All works smoothly and briskly, and everything is as clean as a new pin. Old methods cannot be compared with the new in preparing and preserving fruit, and it is only by such factories and machinery as Mr. Wood's that the wants of the world can be met.

But all the fruit grown about Swauley is not preserved there—for instance, Strawberries. Apart from those sent by road to London the station master's books show that during the month of July 472 tons 3 cwt. were sent direct to northern towns and 133 tons 4 cwt. to London, the most sent in one day being 78 tons; 65 tons to the north and 13 tons to London, or a total of 605 tons in 97,000 baskets of 14 lbs., or 1,358,000 lbs. of Strawberries from one station in one month. For comprehending the manner in which these are grown and gathered, readers who are interested in the subject are directed to page 181. They will there see a photographic representation of a busy scene, and acknowledge that fruit growing affords work for workers on the land.

I thought all could be said in a page of this Journal in connection with the fruit and flowers seen during a flying visit to the fields of their production, but the twin subject has proved too great, and must be resumed another day.—J. WRIGHT.

## VIOLAS IN THE SOUTH.

MR. WILLIAM DEAN wrote interestingly on these flowers in your issue of August 6th. Violas seem to be coming rapidly into favour in the south. This is no doubt in a great measure due to the fact that they are so very accommodating, and adapt themselves to our hot summers better than do fancy Pansies. I am just back from a journey in Scotland, and have seen some large collections of Violas. I have no hesitation in saying that Violas can be grown quite as well in the south as in the north. Regarding growing



Violas round London, there is a charming collection in the R.H.S. Gardens at Chiswick, sent for trial by Messrs. Dobbie & Co. of Rothesay, N.B. They have done splendidly, and are still the brightest feature in the gardens. I was informed by several trade growers in the north that the unexpected demand for Violas this spring has completely cleared out their stocks.

I often hear people grumbling about the great number of Violas they lose in a hot summer. I think the principal cause is late planting in the spring. Autumn and early spring is the proper time to plant, as Violas are perfectly hardy, but some varieties grow better than others through the summer, those that are shy to seed remaining the longest in bloom. I noticed at Kew Gardens that Ardwell Gem (yellow) and True Blue grew best. They are shy seeders; in fact, I doubt very much if any of the Ardwell Gem class seed at all, comprising as it does Ardwell Gem, Goldfinch, and the sport from Goldfinch, Duchess of Fife. This is the most charming Viola in commerce, and has been in great demand this year, one firm alone having sold 4000 plants of it. Violas that are dwarf and tufted in habit succeed best in the south, as they afford a natural shade to their own roots. Sports in Violas are of frequent occurrence. At Chiswick a variety called Delicata, sent out in 1890, has sported completely in every plant into a fine striped variety, somewhat after the style of York and Lancaster but much prettier. Again Columbine has sported into York and Lancaster, not a single flower retaining its true character.

Regarding Mr. Dean's notes on new 1891 varieties, I think Beauty, Cottage Maid, and Wonder are the best of the set. Hartree is attractive, but no improvement on either Columbine or Lucy Ashton, both of which it resembles. Mrs. Neil is a great acquisition, and next to Duchess of Fife is the finest Viola sent out during recent years. It was introduced, if my memory serves me right, by Messrs. Dickson & Son, Edinburgh, in 1890. I slightly differ with Mr. Dean regarding Sunrise. No doubt it is a large flower and rich in colour, but its flowers have such short footstalks that for sprays and glasses it is almost useless, and even on the plants it does not show well. A much better flower, after the same style, but without the above defect, is Princess Beatrice. Mr. Dean is quite correct in his notes on all the others. Self Violas having neither markings nor rays are being eagerly sought after, and are very charming. The best rayless selfs are in whites, Lady Polworth and Countess of Hopetoun. Dean's Bridesmaid is a rayless flower of a peculiar shade of subdued yellow. The best yellows are Queen of Spring, Golden Gem, and Golden Circle; all are very charming. It has been my good fortune to have seen a number of the new varieties to be sent out in 1892, and I can assure lovers of Violas that they will not be disappointed in the 1892 set, as several of them are quite novel and charming.—*VIOLA*.

### THE FINEST VINE IN BRITAIN.

ON visiting the other day, as I have been accustomed to do occasionally for years past, the gardens at Speddoch, my attention was called by the gardener to a paragraph in your issue of August 6th, headed "The Finest Vine in Britain." On reading it I was somewhat surprised to find that the writer of the article claimed this title for the Manresa Vine, and he gave the grounds on which the claim is based, mentioning at the same time the well known Vine at Kinnell House as the only possible competitor.

I am not sure that the Manresa Vine will be permitted to carry off the coveted honour so easily. The Speddoch Vine, while making no boast of its size, lays claim to qualities which are of far more value than the mere power of occupying a large space under glass. Speddoch is a quaint old mansion nine miles from Dumfries, and within half a dozen miles of the moorland solitude where Carlyle wrote "Sartor Resartus." The principal house measures only 60 feet by 20, but within that limited area grows what one of our highest authorities in matters of gardening has declared to be "the most wonderful Vine in Britain." It is of the Black Ham-burgh variety, with one rod grafted on it of the Buckland Sweetwater. It bears more than 500 bunches, averaging over 2 lbs. each; and this year, as for several years past, the total yield will be considerably over 1000 lbs. Thus, on a Vine hardly more than a fourth the size of the Manresa Vine a larger and finer crop is grown. Therefore, if judgment is to be based not on mere magnitude, but on the quantity and quality of the fruit produced, the Speddoch Vine must rank a long way ahead of the Manresa Vine.

Mr. A. Smith, who has had charge of the gardens and houses at Speddoch for over twenty years, will be glad to show this fine Vine to anyone interested; but to be seen at its best it should be visited within the next ten days, as cutting will be in full progress after that period. It may be mentioned

that there are other three houses at Speddoch containing smaller Vines, which yield proportionately as heavy a crop as "the finest Vine in Britain."—KARMI.

### NOTES ON PLANTS.

*VERATRUM NIGRUM* commands attention in the herbaceous border by the peculiarity of the colour of its blossoms, which may be described as purplish black; it is the nearest approach to black of any flower I know. Under good cultivation the flower spikes run up from 3 to 4 feet high. The leaves are a somewhat pale green in colour, broad and bold in appearance. Altogether this *Veratrum* is one of the most interesting plants in the list of hardy perennials. It does not increase rapidly; some time is needed to obtain strong plants, but when once established they annually flower well without any trouble. Our plant is growing in a nook of the rockery where it has a deep root run in holding soil, and it has had nothing done to it since it was planted five years since. Division of the roots is the most ready way of securing a stock of plants.

*Sedum pulchellum* is one of the late flowered varieties of this large family, and is extremely useful for covering parts of the rockery which happen to be somewhat overhung with trees, which this variety does not seem to mind in the least. It is close growing, not more than 2 inches high, except the flower heads, which extend 4 or 6 inches; the colour is rosy lilac. As to propagation it is perhaps the easiest of all *Sedums* to manage.

Amongst hardy *Statice* *S. latifolia* is now in its beauty on the rockery. The pale blue or lavender coloured flowers are so freely produced every year as to render it a safe plant to cultivate. It does not appear to mind if the weather is severely cold in winter or broiling hot in the summer. This *Statice* is easily grown from seed sown in the spring in a cold frame.

*Montbretia Pottsi* is this year flowering very well indeed, even more so than last year, in spite of the hard winter which has so seriously affected *M. crocosmaeflora*. We had last year several strong clumps of the latter, but they are now but weak both in the growth and flowers, indeed long after the usual time for the growth to show above the surface I thought they were dead, but a little later a few weakly growths appeared. It will require at least another season before the clumps are as good as they were last year. *M. Pottsi* does not seem to have suffered from the frost or adverse weather of any kind, for now the clumps are beautifully in flower and from 3 to 4 feet across, indeed I think the leaves are more luxuriant than I have seen them before. The brick red of the funnel-shaped flowers, which hang downwards almost hiding the internal yellow of the perianth, is quite an uncommon colour in the border. Some persons say that to get these *Montbretias* to flower really well the roots should be taken up occasionally and divided, but my experience leads me to think the reverse; certainly it is not applicable to *M. Pottsi*.

*Telekia cordifolia*, or as some prefer to call it *Bupthalmum*, is a grand plant to grow where boldness of character is appreciated, but in the ordinary herbaceous border of a limited extent it is too large to have justice done to it thoroughly. Where this shows to the best advantage is when growing on the grass, so that it may have an all-round effect. The bold foliage has a distinctly tropical appearance. The Ox-eye Daisy-like flowers resemble very much the blooms of some of the *Anemone* Japanese *Chrysanthemums*, the florets being narrow and slightly twisted, falling away from a bright yellow disc. Propagation is easily effected by dividing the roots in the autumn or spring, according to the soil in which it has to grow. If of a light character the autumn is the best, but if the reverse the spring affords the best chance of success, as growth at once takes place after removal in early April.

For continuity of flowering, easy growth, and requiring little aid in maintaining an orderly appearance in the borders, I know of no plant to excel *Bupthalmum salicifolium*. It commences unfolding its bright yellow Ox-eye Daisy-like flowers early in July and continues without intermission until the end of September, sometimes longer. There appear to be two varieties of the type; one, the most generally seen, growing not more than 2 feet high, with a somewhat spreading habit, forming a dense bush, while the other grows always fully 1 foot higher and more erect. If anything the flowers are a trifle smaller on the tall growing plant, but both are exactly of one colour. Propagation is most easily effected by cuttings of side shoots which have not flowered taken off early in September, inserted in sandy soil in a cold frame, remaining there until the following May, when they will be bushy little specimens, and if planted then where they are intended to flower they will produce abundance of blossoms the following year. It is wise to strike a few cuttings every year; a stock of neat, compact flowering plants are then always on hand. The old roots when they get too



large can easily be disposed of, the younger ones taking up less space in the border.

No plant in our rather large collection has given more pleasure than the old crimson Clove has this year. With us it succeeds well the first year from layers. In some gardens I have seen quite old plants produce abundance of blooms, but here it will not last more than a couple of years; indeed the second year it does not do nearly so well as the first. Why I know not, unless it be that the soil is too cold and wet during the winter. I notice every spring that the plants show signs of decay and eventually die in patches. We grow a bed of it about 12 feet square, half of which are young plants, the remainder a year old. Directly the flowers are past we layer the oldest, replant that part, and allow the other half to remain.

Besides their value as pot plants, *Campanula pyramidalis* and its variety *alba* are well worthy of a conspicuous position in the herbaceous border. At the present time these Chimney Bell-flowers are making a great show at the back of the border, especially where they are in contrast with large double scarlet Poppies. The plants will last a number of years, but it is not wise to allow them to do so, because they are so easily raised from seed sown out of doors in May. Some will flower the following year, all the second; if left more than three years the flower stems appear at some distance from each other, which renders neat staking more difficult. Pieces of the root will throw up strong growths and make stocky plants in a short time, treating them similarly to Seakale. No border is complete without a few roots of this type of a large family. If the trouble is taken to remove the first crop of seed pods other flowers will push forth later.

Herbaceous Phloxes are great favourites with most persons, and rightly so where a continuance of flowers is required and an extended variety of colour. One of the showiest of these now in flower is *Max Kolb*, which may not be one of the best sorts from a florist's point of view, but as a decorative plant of extremely taking colour this variety deserves cultivating. The growth is strong, the flower heads large, and no doubt with attention in confining the spikes to a limited number much larger bloom heads might be secured, but that is not my object. I grow it merely from a decorative point of view. The colour is deep rose in the centre, the outer part of the petals a pleasing shade of salmon.

I have noticed a curious circumstance in connection with many plants of *Ceanothus divaricatus* which were badly injured by the frost of the late winter, so much so that all the small branches were killed back to the main stem, on south walls as well as upon northern aspects. These small branches were cut off in April early. Hundreds of vigorous shoots pushed from the main stem, giving promise of a free summer's growth; but now most of them have turned quite yellow, and seem to be dying, which will be a lamentable occurrence where they cover large spaces, as in my case. Can anyone account for this?

Perennial Sunflowers are desirable hardy plants to grow—in fact, are indispensable where a representative collection is required. All grow erect—a point in their favour, as they are much more easily kept tidy than those which have a tendency to spread. One stout stake at the back of the plant, to which the stems should be loosely secured, is all the support needed. In my opinion *Helianthus maximus* is the best of the group. The well-formed single flowers are very showy and stately, in a growing state especially. This variety under good cultivation will grow 8 feet high. *H. communis* fl.-pl. is the oldest of the type; a full flower of a pleasing shade of yellow, height 5 feet. *H. communis* *Soleil d'Or* is pale orange yellow, very full and double, not quite so tall as the parent type.

*Clematis Jackmanni* is one of the most useful summer flowering climbers we have. Not only does it flourish admirably on a southern aspect, but it will give a greater abundance of flowers when growing at the base and covering a north wall than any other plant at this time of the year. Many persons have a difficulty in procuring plants that will succeed on a northern aspect other than those which are valuable for their foliage only. Many fail to grow it well by neglecting to prune it hard down in the spring; February is the best time for this, leaving but one or two eyes from the base. In this way the after growth is strong, and cannot fail to flower freely; it is only when the growth is weak that few flowers are produced. No plant that I know pays a better return for good treatment in the way of supplying it liberally with water and liquid manure than does this climber. Growing at the base of a south wall, for instance, during a spell of dry weather, the wall naturally absorbs much of the moisture from the soil to the detriment of the *Clematis*; it is then that artificial waterings are a boon. If this *Clematis* is allowed to entwine its growth with something else on the same wall the trouble of constantly nailing or tying it to the wall is dispensed with, and a prettier effect is secured when the long trailing shoots covered with the deep purple blossoms are allowed to hang downwards. We have it growing along with a

*Cratægus Pyracantha* and an *Aristolochia Siphon*, and right well does it succeed in the company of these two plants. For verandahs, porches, or pillars by garden entrances it is unequalled for giving a fine display of richly coloured blossoms.—E. M.



#### DENDROBIUM LEUCOLOPHOTUM.

THE English edition of the "Lindenia" for August (part vii.) contains excellent illustrations of *Mormodes Rolfeanum*, *Lælia grandis* var. *tenebrosa*, *Cattleya bicolor*, and the white flowered *Dendrobium* named above. Concerning this the following history is given by Mr. R. A. Rolfe:—"Dendrobium leucolophotum was originally described by Reichenbach, in 1882, from specimens sent by Curtis from some part of the Malayan Archipelago to Messrs. James Veitch & Sons of Chelsea during the previous year. The precise locality is said to be unknown. Prof. Reichenbach speaks of it as follows:—'Very near *D. barbatulum*, Lindl., but with a much stronger pseudo-bulb, a lax inflorescence exceeding a foot in length and much larger flowers of a fine white colour, apparently with yellowish buds. The acute chin is small, and the sepals ligulate acute, and far larger than the sepals. Lip trifid as in *D. cuspidatum*, Wall., with triangular side laciniae rounded outside, and a linear ligulate acute long anterior lacinia. All the nerves of the superior half are covered with minute lobed lamellæ, just as in *D. barbatulum*, whose conspicuous middle callus is absolutely unrepresented.'

"The species appears to be extremely rare, but there is a raceme in the Kew Herbarium, received from Signor Comendatore H. J. Ross of Florence, Italy. And now it has been re-introduced, a raceme and the complete drawing of the plant having been forwarded by Messrs. Linden, L'Horticulture Internationale, Parc Leopold, Brussels, with the information that it came from Northern Queensland. It is quite identical with the plant mentioned above. As the precise locality of the original plant is unknown it seems quite possible that it may have come from the far east, and if so, the two localities are not so far apart as they may at first appear to be. It should also be remembered that *D. Phalænopsis* occurs in Queensland, New Guinea, and Timor-laut, and *D. leucolophotum* may occur over an equally wide area. We know so little of the distribution of Orchids in this interesting region.

"Although the plant has been very well compared with *D. barbatulum*, there are some decided affinities with *D. Phalænopsis*. The long scapes and the gibbous projection underneath the spur, as well as the general shape of the flowers, are all characteristic of this group.

"The application of the specific name is somewhat difficult to understand, and its author does not explain it. From his description it would appear to be in allusion to the minute white hairs upon the disc of the lip, which may be called the crest. It has been suggested as derived from *leucos*, white, and *lophos*,\* a tuft of long hairs, 'as the mane of a horse,' and 'evidently intended to refer to the long one-sided racemes of white flowers,' but I am inclined to think that *lophos* here means a 'crest.' In any case, the name is a somewhat fanciful one. As regards cultivation it will be found to succeed under the same treatment as is given to *D. Phalænopsis*, *D. bigibbum*, and *D. superbiens*, with or near some of which I suspect it grows in its native habitat."

#### SOME SELECT ALPINES.

##### LYCHNIS LAGASCÆ.

I SHOULD unhesitatingly place this charming species in any and every selection of choice alpine, for I know none to surpass it in the beauty and profusion of its flowers, and few that are more easily cultivated or more readily increased. To the amateur or beginner in the cultivation of alpine I would always recommend this one, for with even ordinary care success is all but certain, and when a full measure of it is attained its brilliant rose-coloured blossoms are sure to tempt the cultivator to try what he can do with others. Of really easily grown and free flowering alpine, such indeed as we may justly pronounce decorative, there are numbers, and it is these that I would recommend the majority to make a

\* More correctly from the adjective *lophotos*, "tufted" or "crested."—[Ed.]



start with, especially if they would secure some of the brightest gems in the spring flora, that in a year or so would cover a space a foot or perhaps 2 feet across.

Like most members of its family this produces seed freely, consequently it is of the greatest value to the beginner, as by obtaining a packet of seeds a score or two of plants are almost a certainty, and a good show of flowers quickly follows when the seedlings appear. The seeds are glossy black, and may be sown early in autumn or as soon as ripe, which is generally about the end of June; while for a late spring display winter sown seeds are perhaps the best, for then the seeds germinate with the lengthening of the days, and if duly attended to the plants will flower the same spring. Cover the seeds lightly with finely sifted sandy loam, and, having watered them thoroughly, place in a cool spot till the seedlings appear. It is a point worth noting that the seedlings should be pricked off early, not allowing them to be crowded, and thereby become weakly, placing half a dozen in a 4-inch pot for the present; these to be thinned to half the number should all survive. If plants from a dozen or more of such pots can be pricked off so much the better, and when growth has fairly commenced remove the point of each to induce them to branch. On any favourable day these, if properly hardened by exposure, may be transplanted to the rockery in sunny spots where a deep root run of sandy loam is available; and if some well decayed manure be added this brilliant alpine will grow rapidly. When seen overhanging a rude bit of rock nothing can surpass this. It is also charming when inserted in the crevices of roughly built walls or the nearly perpendicular chinks of rockwork or on old ruins. To establish it thus is quite an easy matter, and may be done by seeds or seedlings, first boring out the mortar with a piece of pointed iron, then apply some soil, and in this latter insert the seeds or the young plants. The simplest way to obtain success with seeds is to mix them with a little soil and make all moist, when they may be readily rubbed into the places prepared for them.

#### SILENE ALPESTRIS

is another of those easily grown plants which all must admire, for it possesses every merit which can render any alpine popular. In the perfect sheet of bloom which in late spring and early summer is produced on established plants this is probably unique, and the shining leaves are hidden. The blossoms are of a pure and glossy whiteness, beautifully notched, and are 6 inches above its dense compact tuft of leaves. It is by no means particular as to soil, thriving well in any ordinary garden soil made fairly rich, spreading freely and quickly into handsome tufts, but prefers deep fairly moist soil, and should not be placed on the dry rockery. Beyond this we have no alpine more easily grown; indeed, on the level ground in quite heavy soil I have had this lovely plant a yard across in the greatest luxuriance, and even growing quite as freely as an *Aubrietia*. I have heard of its failing occasionally, but the instances are rare, and always due to improper positions. The whole of the Mossy Saxifrages on the level ground or in moist spots will soon become rampant, while on the dry rockwork they are frequently seen dwarfed and stunted in growth. Still in both cases the soil may be precisely the same; therefore soil in such a case plays quite a secondary part, and it is so with this Alpine Catchfly, which on level ground grows and flowers with the greatest freedom. Seeds are freely produced, and it may be increased by this means or by division. Freedom at the root it must always receive to allow full development to the growths that are abundantly produced. Its flowering period is from the middle of May to about the same time in July, varying of course with the season as with the locality. A native of the European Alps, and one of the best of this family.—J. H. E.

#### LINDELUFIA SPECTABILIS.

ALTHOUGH comparatively little known in gardens generally this beautiful Boragewort has been grown in a few collections for many years, and must be placed amongst the neglected favourites of past days. Messrs. Paul & Son of Cheshunt recently exhibited some specimens at one of the Royal Horticultural Society's meetings, when the illustration (fig. 26) was prepared as a means of calling special attention to the plant.

If search is made for the name given above it will not be readily found, but it appears in Walper's "*Annales Botanices Systematicæ*" for 1858 (page 539), where *Omphalodes longiflora* and *Cynoglossum longiflorum* are given as synonyms. Under the latter name an illustration appeared in the "*Botanical Register*" for 1840, where Lindley gave the following particulars:—

"Of this fine species of Hounds-tongue the characteristic marks are derived in part from the great length of the tube of the corolla, and in

part from the elongation of the processes which rise up from the mouth of the corolla, and alternate with the stamens. They are as long as the projecting filaments, curved inwards and emarginate at the apex, and hollow, which latter circumstance renders it probable that they are mere folds of the corolla and not abortive stamens. According to Brown the species with projecting stamens are to be excluded from the genus, and if so this plant is not a *Cynoglossum*. But the fruit is that of the latter genus, not of *Anchusa*, to which I presume the species must otherwise be referred. This is a very pretty hardy perennial, growing about 1½ foot high if planted in any good garden soil, and flowering freely from the end of May to the beginning of August. It is increased by seeds or divisions of the roots; but by seeds is the best way, as they are produced abundantly. However, the plants so raised will not flower before the second season after sowing. It was raised from seed received from the



FIG. 26.—LINDELUFIA SPECTABILIS.

Honourable East India Company, through Dr. Royle, in May, 1839, and collected in Cashmere. It stood out last winter in the open border without any protection."

The flowers are of a variable metallic blue tint, the centres pink, and the tube pale blue.

#### THE CULTIVATION OF THE GRAPE VINE.

[Read before the Sheffield Floral and Horticultural Society, by Mr. H. TRANTER, gardener to Sir F. T. Mappin, Bart., M.P., Thornbury, Sheffield.]

GRAPES are always greatly appreciated and stand first among dessert fruits. For general purposes there is no better way of propagating Vines than by eyes. These must be selected from well ripened wood. I cut the wood right across, about half an inch on each side of the eye, as I find they strike sooner, and they callus more quickly in sand than in loam. They may be placed in bottom heat, but after they are struck they should be shifted into larger pots, and have no bottom heat except the temperature of the house they are grown in. It is far better to have firm than large half-ripened growth. The Vines must not be crowded in dark houses, direct light and sun being essential. January is a good time for inserting the eyes in a bottom heat of about 90° and as near the glass as possible, with an atmospheric temperature of 55° at night, rising to 70° by day, keeping them moderately moist. When the plants have a few leaves on them take them out of the plunging material; and though they will not make such rapid growth as if left in, it will be firmer and safer. They must be kept growing and not checked. If the Vines are for planting out 8-inch pots are sufficiently large; if for fruiting in the following season the size should not be less than 8 nor more than 14 inches. When potted they should be for a few days shaded from the sun. In March the temperature



and general treatment as to ventilating should be the same as I will recommend for the first year they are planted in the border. I advise stopping them when they are about 6 feet high, and the laterals should be stopped to one joint. These will break again, and should be stopped so as to leave another joint. The Vines growing in the full blaze of the sun will soon become brown and show signs of ripening, and then the whole of the lateral branches may be cut off, care being taken not to injure the leaves that come from the main stem, as these have to support the buds that will produce the fruit next year.

When the leaves are acquiring an autumnal tint, or showing any sign of being fairly ripened, about September they may be removed outside against a wall, left there until the approach of frost, and then be removed to a house where they can be kept cool. The roots should never be allowed to get dry during the season of rest, nor should they have too much water.

It is of great importance to prepare a good border, one that will last a good number of years. The top 4 or 5 inches should be taken off an old pasture with not too much grass on it, 1 bushel of bones, and 1 of bonemeal to every four loads of soil; add plenty of lime rubbish and oystershells and some horse droppings or cowdung. Many make the borders too rich; it is a great mistake because you can always give manure as a top-dressing.

Mix the quantities together, and the same compost will do for pot Vines. A border about 3 feet deep is quite enough, and the bottom of the border should be concreted, and plenty of drainage used. Some situations are suitable without it, but as a rule the Vines like plenty of drainage. One foot of rubble is not too much, and then over that place a layer of turf with the grass side downwards, filling in with the compost.

The border being in readiness, the Vines may be planted at any time during spring, say about April or May, and about 4 feet apart, spreading the roots out their full length, not leaving them in a ball, and cover them about 6 inches deep, as it is bad practice to plant too deep. Care must be taken that the Vines do not sustain a check, as the progress of the Vine depends a great deal on this. When planted a little water should be given to settle the soil about the roots. It is a general practice when the Vines begin growing to rub off all the eyes from the shoots but one or two in case of accident.

Do not prune the Vines at planting time, but allow them to break, and then rub the buds off to the part where you want the young canes to start from. The best practice is to let as many canes grow as you can the first year, as this will give abundance of roots, and the more roots the more vigour in the Vines the next season. Allow the house to get full of foliage without crowding, so that they will have plenty of sun. As the shoots appear they should be carefully trained to the trellis 18 inches from the glass. If the spur method is to be adopted then only one shoot should be encouraged after the first season's growth, and it should be allowed to reach the top of the house without stopping. Admit air in sufficient quantities according to the weather, so that the shoots do not become drawn and weakly—say a temperature about 65°, rising to 70°. As the plants advance in growth give liberal supplies of water, syringing twice a day in fine bright weather to induce vigorous growth, also to keep red spider in check and the foliage clean.

By the middle of September the wood will be getting ripe; if not, fire heat must be given, so that the temperature may stand at about 70° to 75° till all the shoots assume a brown colour. As the wood begins to ripen both air and water must be gradually reduced, until the latter is entirely dispensed with. The second year is a good time to prove the varieties with one bunch each, but not to overcrop, as it is a bad plan to overcrop young Vines. For the future the canes should be shortened each year, leaving 3 or 4 feet of new wood till the length of the house is reached, leaving spurs from 2 to 3 feet apart. The leading shoots I always allow to remain, and grow to the top of the house and down the back wall before stopping. The side shoots I usually stop at two or three leaves beyond the bunch, the sub-laterals at the first leaf, and if there is plenty of room two or three more, and then we insure healthy root action, which is necessary for the proper finishing of the fruits.

When the house is full of foliage stop every lateral as soon as it shows. By that time the Vines will be in bloom, and will require a dry temperature, rising 75° to 80° by day, or even 90° to 95°, with plenty of sun and air. This is particularly necessary with Muscats. The Vines should be gently tapped to disperse the pollen, as they set better. After the berries are set commence thinning as soon as possible, and to do this will require practice. Do not handle the berries or prick them with the point of the scissors, or you will spoil the appearance of the bunches. At the same time clear all dead flowers out of the bunches, or the water from syringing will stain the berries. After the fruits begin to colour syringing must cease. Some gardeners never syringe after the fruit is set, but I am obliged to do so to prevent the increase of red spider. Have plenty of moisture in the house, and admit plenty of air when a temperature can be maintained of 80° to 85° by day and 70° by night.

Soakings of tepid liquid manure, not too strong, every two or three weeks from the time they are set till they begin colouring, are advisable for established Vines. I have also used sulphate of ammonia with good results two or three times a year. Never water the borders with liquid manure without opening the ventilators, as the steam rising from liquid manure is liable to cause rust.

VINE ENEMIES.—Vines are liable to both diseases and insects, and

in both cases prevention is better than cure. Mildew is a very destructive disease if neglected. Painting the pipes with freshly slaked lime and sulphur soon destroys it. The best preventive is a well-drained border and a sweet healthy atmosphere.

Shanking is a disease which often causes disappointment at the finish, as it attacks the stalks of the berries, eventually causing them to fall. In some cases it is caused by the roots being in an uncongenial or wet subsoil. A good preventive is a concreted bottom to the border, well ripening the wood and inducing healthy roots, thus preventing rank growth. The fruits on rank growth are very liable to shank. Rust is scarcely a disease, though a disfigurement. It is generally caused by overheating the pipes or by sulphur left on them from the previous year, cold draughts when the berries are setting, and watering with liquid manure without ventilation. Warts occasionally occur on the under side of the leaves, and some cultivators contend that they do no harm, but the leaves "cup" and are arrested in their growth. They are caused by the atmosphere being overcharged with moisture, and by insufficient ventilation.

Some Grapes are more subject to scalding than others. It occurs at stoning time. Early ventilation and a cool atmosphere are the best preventives I know. Red spider is one of the worst enemies of the Vine, and if neglected soon spreads over the house, destroying the foliage and weakening the Vines. A dry atmosphere encourages it. In guarding against it, practise cleanliness, and painting the pipes with sulphur and milk, or sponge the leaves with softsoap water. Mealy bug and thrips are often introduced into vineries through growing plants in them, and if once they gain a footing they are difficult to get rid of until the foliage of the Vines falls. The best remedy is to paint and scrub the Vines when they are pruned, and brush them with methylated spirits of wine. This will destroy the mealy bug.

The best varieties to grow are Black Hamburgh, Muscat of Alexandria, Madresfield Court, Lady Downe's, Alicante, Gros Maroc. The best for amateurs are Black Hamburgh and Foster's Seedling.

### SELF-FERTILISING FLOWERS.

A LONG list of flowers which cannot use their own pollen has been placed on record, as well as of plants that depend on insect or outside agencies for the use of their own pollen. There are also flowers which, capable of using their own pollen in a late state of anthesis, are so constructed, as regards the relative maturity of stamens or pistils, that they may be fertilised by foreign pollen before being able to use their own. The records of all these make important material for philosophical strictures. The author of this paper has performed his own share in this work.

It is a continual thought with him, however, that the facts which bear on self-fertilisation deserve equal prominence. It is a line in which there seem to be few workers. The following additions to others already recorded are offered, not because cases of absolute self-fertilisation are unfrequent, but because the study of these particular instances developed other facts of interest in the study of plant life as well worth recording as the mere fact that they are self-fertilisers.

SYMPLOCARPUS FÆTIDUS.—So much has been said of the relations between insects and flowers—even a structure so peculiarly arranged as the Skunk Cabbage, *Symplocarpus fœtidus*, being claimed as an illustration of some close relation—that I devoted a half-day of the 22nd of February to a thorough examination of plants growing in the woods and swamps within a short distance of my residence in Germantown. I gained some facts in addition to those recorded in the chapter on this plant in my "Flowers and Ferns of the United States," vol. i., series I, page 57 et seq., 1878. It was there shown that the sexual character of the plant is variable, and that the hermaphrodite condition, as distinguishing the genus and its allies from their monœcious relatives, was a very slender line. A difference was noted in the relative maturity of stamens and pistils. Sometimes the stamens matured before the pistils, or technically, the flowers would be proterandrous, at others the pistil matures days before the stamens, when the flowers are proterogynous. At that time I thought, as the result of the examination of a few flowers each season, that this difference was caused by the peculiarities of the season. The result of the examination of many flowers on the afternoon mentioned shows an almost equal number of both forms. Both thus existing at the same time and under the same conditions of temperature, the circumstances being in fact exactly the same, shows the difference to be of an innate character, and tending towards an unisexuality. Indeed, so far as one may be justified by analogy in similar cases, and in the absence of an actual test by marking the plants and waiting for results, we may risk saying of the species that it is dioecious. If this be not the case, it is certainly tending towards dioecism. In the one case the pistil pushes through the perianth, extending a full line beyond, and is capped by its beautiful head of stellate hair. No sign of the stamens is visible, though the pistil has evidently been protruded for several days, as it has lost the little globule of moisture that envelops it on its first appearance. In the other case, the swelling anthers part the perianth segments, and exhibit the apex of the pistil nestling among the anthers. Finally the apex of the pistil, in company with one stamen, is protruded barely beyond where the pistil remains, but the stamen continues until the whole of the comparatively large anther extends beyond the



perianth. The other three stamens follow the next day. Certainly on one plant are flowers on which all the stamens are in advance of the pistils, and are very vigorous, while on other plants the pistil is in advance and comparatively strong, differences which in other species are associated with fertility or infertility, or, as we say, render the plants practically dioecious.

These conclusions are reached in face of the fact that they render the problem of fertilisation still more difficult of solution. Although the dry pollen would indicate an anemophilous species, the manner in which the spathe is coiled around the spadix must render it next to impossible for the wind to be a material agent in carrying pollen to separate plants. As for insects, though I have seen a few flies on exceptionally warm spring days among the flowers, and other observers have noted similar insect visitors, these visits can be far from as general as we must demand before we can assign them any important part in a system of cross-fertilisation. On the whole of the afternoon of February 22nd, though they were the special object of the afternoon's search, the thermometer indicating 52° Fahr., no winged insect of any kind was seen. I cannot think that either insects or the wind have any material agency in fertilising these flowers. As, however, I know that some plants in the vicinity of the examination bear an abundance of seed the probability is that some individuals have flowers in which perfect hermaphroditism prevails, and that these are self-fertilising.

The great variation in the colour and form of the spathes and spadices of this plant has been often noticed. It is worthy of remark, however, that through all the changes, the striped and splashed character of the tints remains. The spathe may be either almost wholly yellowish-green, or purple, there will generally be striae of one or the other colour spashed over the surface. In one case a flower was found with a double spathe, as is occasionally seen in the common garden Calla, *Richardia africana*. The explanation given in the latter case is that the flower stem is but a consolidated mass of leafstalks, in which the blades of all but the white spathe have been suppressed. There is no reason, therefore, why these suppressed blades should not occasionally appear. The case of *Symplocarpus* shows the inflorescence to be also formed by the consolidation of several leaves, of which a second blade has been advanced though usually suppressed. This is the first case that I have heard of, but there is no reason why they should not be oftener found if looked for.

It may not be out of place to repeat what I have already noted in the chapter above cited, that the flowers are odourless, the foetid smell being given off only when the leaf or stem is broken. These facts were again confirmed on this occasion, showing the speculations that have been offered concerning the "carion like odour" of the flowers as an attraction to carion flies, to be, like many similar speculations, figments of overwrought enthusiasm.

**PORTULACA PILOSA, L.**—This is everywhere classed as an annual except by De Candolle ("Prodromus" 3, p. 354) where it is classed as either annual or biennial. Among a collection of dried specimens brought by my wife from Punto Gorda, Florida, in the winter of 1887, I found a specimen with life and planted it in a flower pot, where it has continued to grow and flower annually. Now four years old, it seems likely to live for an indefinite period. Its flowers open only, according to all authors before me, under bright sunshine, and then merely for a very brief period. De Candolle says it opens only between 10 and 12, Bon, however, (Ed. of Miller, vol. iii, p. 74), notes that this is only true of days when the sun is out. Englemann ("Plantæ Lindheimerianæ," p. 155) observes that in bright sunshine it opens from 9 to 11 or 12, and at the same time notes that the neighbouring *P. Gilliesi*, *Hook.*, originally from Chili, common in cultivation, opens from 8 or 9, to 2 or 3 P.M. in sunshine. My plant has never been set in bright sunshine, and thus the flowers which are produced abundantly and seed freely, have never opened. They must of course, be arranged for self-pollination, or they could not seed so perfectly. Opening only in bright sunshine in their country, and no one flower opening twice, a large number of those growing in their natural places must of necessity also be close-fertilised.

The inquiry which these facts suggest is whether the chance for cross-fertilisation could have been much of an object in nature in the arrangement for the opening of the flowers. It is a well-known fact, that of the immense number of seeds produced by any one plant of any kind, but a very small number escape the chapter of accidents and reproduce a plant. If cross-fertilisation were so desirable, it would seem that the flowers should have a better chance for effecting it than the brief period of daily opening, and limited, at this, to the few moments bright sunshine affords. As the facts stand, the greater proportion of seeds in this species are the product of close and not cross fertilisation.

To this fact we have to add that the expanding flowers do not seem to my mind to favour cross-pollination. The seed is most probably from close-fertilisation in the expanded as well as in those which seed without expanding. I placed on record, ("Gardener's and Landsteward's Journal," 1845), that the stamens of *Portulaca grandiflora*—a mere form probably of *P. Gilliesi*—were irritable, and in 1878 (Proceedings of Ac. Nat. Sciences, 1878, p. 332) that the stamens of the common Purslane, are irritable also. Close observations have frequently been made on these flowers, because of irritability of a precisely similar character in *Opuntia* and other Cactaceæ. But in none of these observations has there been any suggestion of design or adaptation to cross-pollination by insect or other agency.

The leading object of this paper is not however, to show the relation

which the behaviour of these flowers bears to speculations on cross-fertilisation, but to point out in how many particulars the character of some Portulacaceæ resembles some Cactaceæ. A large number of the latter open only for a single day, and for a few hours, under sunshine, during that day. In my experience a large number never expand their petals, and the sexual organs are well protected from wind and from insects, but seed just as well. The bulk of the seeds certainly, if not the whole probably, are the result of close-pollination. Again we have the resemblance in the irritable stamens, in the succulence, and many other characters. It is fair to assume that both families have had a close derivation, and if we would search for the object of Nature in so limiting the duration and period of opening and yet with a resulting productiveness, we should probably have to look back in the past to some necessity common to both families, and which does not exist at the present time.

**CUPHEA ZIMPANI.**—Observing that with scarcely an exception the flowers of the annual species of *Cuphea* were fertile, I was led to look for the evidence of self-fertility in *C. Zimpiani* in bloom in my garden, and found that it was so arranged that the reception of any pollen but its own was evidently impossible. An examination of the flower soon after the expansion of the limb would lead to the inference that it was arranged for cross-pollination. The two bearded stamens are abundantly polliniferous, while it is evident by the thick bearded mass below that the communication between stamen and pistil is completely cut off. Between the two large upper petals, however, the calyx forms a sort of sheath, down which an insect in search of honey, and not gifted with the tube-splitting habits of the humble bee, would no doubt thrust its proboscis. It would be natural to suppose an insect thus examining a flower would carry pollen to the next. But an examination of this sheath will show that the stigma cannot be reached in this way. That and the four other anthers remain coiled away in a nest of downy hair, which is at once the cradle and the grave of both. A more perfect adaptation for self-fertilisation is seldom seen.

**DAPHNE CNEORUM.**—Though I have seen this under cultivation for half a century, I have never known it to produce a seed. The flowers seem well arranged for self-pollination. The mouth of the tube is effectually closed by four anthers abundantly polliniferous, and the next day the second series of four below, also burst their sacs. The exposure of pollen is simultaneous with the expansion of the limb, and it seems next to impossible that foreign pollen should reach the stigma. The short style and stigma at the base of the tube seem perfect, but I have never been able to detect any pollen on the stigma. It is highly gelatinous and does not separate readily from the anther-cell. It looks as if it might be necessary for an insect to carry the pollen to the stigma, aiding in self-pollination as in *Yucca* and other plants. The tube is too long for the honey bee, and the humble bee slits the tube even before the flower opens, thus wholly avoiding contact with the stamens. It may be that in its native places self-pollination is aided by long-tongued lepidoptera, but this suggestion places the plant at a disadvantage in the "struggle for life" as it cannot travel as a self-fertiliser does.

"He that fights, and runs away,  
May live to fight another day,"

does not apply to a plant, which cannot run.

**LOPEZIA CORONATA.**—That *Lopezia coronata*, *Andrews*, a Mexican Onagraceæ common in cultivation, is a self-fertiliser, I am confident from the fact that every flower is fertile, and this is equally as true of plants growing in greenhouses where insects and currents of air are wholly excluded, as when growing in the open air. But I have been baffled in endeavouring to ascertain how the flower's own pollen, or the pollen of a neighbouring flower, which, as is well shown by Mr. Darwin, is practically the same thing, reaches the stigma. To one who had not been assured of self-fertilisation from the actual facts, the flowers would seem as perfectly arranged for cross-pollination as it is possible to be. In the early stages of the bud, before anthesis, the large single anther is introrse. It is sheathed by the blade of the petaloid stamen, and its own filament sheaths the style. At anthesis the connective twists, and the anther turns its back on the style. The anther cells burst at once, and some of the pollen undoubtedly falls on the apex of the style. The stamen soon recurves, until the face of the anther rests upon one of the sepals. At this time, however, the first day of opening, the apex can scarcely be called a stigma, for it is not till the second day that the globular, capitate, and capillate head, properly deserving of the name of stigma, is developed. Looking at the relative positions of stamen and stigma at this period, and when the latter might be regarded as in receptive condition, one might readily conclude it impossible that the flower could be individually self-pollinated. The next day the fading sepals and petals coil upwards and enfold the style and stigma. Whether the pollen which falls on the immature apex of the style at anthesis remains there till the stigma matures, or whether the pollen which has been scattered over the petals and sepals is brought up when the fading petals incurve, may well be a question. Possibly, as before noted, it falls from the flower above.

Certainly pollination is not effected by insect agency, and the chief point of this chapter is to show how error may creep in by mere speculations on the arrangement of the parts. Here is a case where one might well believe the arrangements were nicely adapted to pollination by insect agency, when in fact the plant in some way not clear, but certainly, is self-fertile.—THOMAS MEEHAN (in *Proceedings of Academy of Natural Sciences, Philadelphia*).





**EVENTS OF THE WEEK.**—The Oxfordshire Horticultural Society's Exhibition takes place on the 27th. Sandy (Beds) and Falkirk are fixed for the 28th. Bath Exhibition is to be held on September 2nd and 3rd. On August 28th Messrs. Protheroe & Morris will offer a consignment of *Cattleya aurea* for sale by auction.

— **NEWCASTLE SHOW.**—From a telegram to hand late on Wednesday, we learn that Newcastle Show, which was fixed for the 26th, 27th, and 28th insts., has had to be abandoned in consequence of the gale. Great damage has been done.

— **THE WEATHER.**—Showers have fallen daily of late, though there have been alternate periods of sun, but since Thursday and Friday last the rain does not appear to have been so heavy in the neighbourhood of London as in many other districts. A settled term of clear bright weather is urgently required to impart good colour and high flavour to fruit. Tuesday night was stormy, Wednesday fine.

— **TECHNICAL EDUCATION.**—Among the subjects included in the technical education scheme of the Surrey County Council "Horticulture" has a place, and Mr. J. Wright, of the *Journal of Horticulture*, has been invited to undertake the duties of lecturer on useful gardening generally, including the cultivation of fruit, in various districts.

— **A ROYAL APPOINTMENT.**—After nearly twenty years of assiduous and successful work in his extensive and important charge, Mr. Thomas Jones has resigned his position of head gardener to Her Majesty the Queen at Windsor and Frogmore. Mr. Owen Thomas the accomplished gardener to the Duke of Devonshire at Chatsworth, has had the honour of being chosen as Mr. Jones' successor, and he will enter on his duties on 1st October. By the ability he has displayed, and his diligence and devotedness in the discharge of his duties, Mr. Jones has well won the rest he seeks, and which all who know him must hope he will long enjoy; while Mr. Thomas will take with him the best wishes of the gardeners of Britain and a host of friends for his success in gaining the highest position in which a gardener can exercise his calling in the kingdom. We have not the slightest doubt he possesses the requisite qualifications for the charge, and we are convinced he will prove a worthy successor to a worthy man.

— **YORKSHIRE HORTICULTURAL SOCIETIES—A GOOD IDEA.**—We are pleased to hear that a movement is on foot to hold a great gala under the auspices of the whole of the Yorkshire Horticultural Societies next year in one of the largest and best private establishments within easy reach of the chief towns, the proceeds to be devoted to the Garden Charities. We understand that this subject has been before the Committee of the Wakefield Paxton Society, who highly approve of the proposed scheme, but as yet the matter is undeveloped. We cannot but think that the project will commend itself to other societies in Yorkshire. The Association of Gardeners is in itself good, and if by co-operation they can enjoy a day of pleasurable instruction and at the same time afford some assistance to those who so urgently need it, an example will be set that is in every way most worthy to be followed by gardeners and amateurs in various parts of the kingdom. We shall hope to hear that the proposal meets with unanimous approval, and that there will be a combined effort to make the scheme a great success.

— **DEATH OF MR. SAMUEL BRADLEY.**—We regret to hear of the death of this diligent worker and estimable man, which occurred on the 13th inst., at Halam, Notts. Many growers and consumers of Strawberries have cause to respect the memory of Mr. Bradley, for he was the raiser of Sir Joseph Paxton, Dr. Hogg, Amateur, and several other varieties, the first-named being more extensively cultivated than any other, while the second often succeeds where British Queen fails, and ranks among the best flavoured. Amateur is also a favourite in some gardens, but the two former are the best memorials of the raiser. He also raised a very useful Apple of the Codlin type, Bradley's Seedling, somewhat resembling Domino. Mr. Bradley was very unostentatious, and spent the latter years of his life surrounded with his fruit trees, which he loved so well. He was about seventy-two years of age.

— **WEIGHTS OF NECTARINES.**—I enclose the weights and circumferences of six Downton Nectarines, grown in a small house, which is used also for plants. I believe I should have had them finer but for a little mishap in the spring, through having some Arum Lilies in the house. The six fruits weighed together 2 lbs. 7½ ozs.; separately 7, 6½, 6½, 7½, 6½, and 5½ ozs. respectively. The circumference of the largest was 9½ inches, the others about 9¼ inches, with the exception of the lightest fruit. There were five dozen fruits on the tree. I should like the opinions of Nectarine growers on the fruits and crop.—J. G.

— **WE regret to announce the death of Mr. J. F. MESTON**, well known as a prominent figure connected with horticulture, which took place at Brighton on the 19th inst. at the age of 64. Mr. Meston was during the greater part of his life engaged in landscape gardening, in association with Mr. Nesfield and Mr. Marnock, and his special department was that of contracting for the execution of planting and ground-work. He was intimately associated with all movements tending to the advancement of horticultural matters, and especially of the Gardeners' Royal Benevolent Institution. Mr. Meston will be greatly missed by a wide circle of friends.

— **BRITISH FRUIT GROWERS' ASSOCIATION.**—At the Conference to be held by the above Association in the Crystal Palace on September 4th, at 4 P.M., the subjects for discussion will be "Pruning," and "Gathering, Packing, and Storing Fruits," to be introduced by practical addresses. At the Edinburgh Conference to be held in conjunction with the International Show on the second day—namely, September 10th, at 3 P.M., the programme will include an address on "The Present Condition of Fruit Culture," "Fruit Culture for Profit in Scotland," "Strawberries for Market," "Gathering, Packing, and Storing Fruits," and several other important subjects. Further particulars can be had on application to the Hon. Secretary, Mr. Lewis Castle, Hotham House, Merton, Surrey.

— **POISONING BY LABURNUM SEEDS.**—A correspondent sends us the following cutting from a newspaper which he does not name:—"At Birmingham last week seven children were taken to Queen's Hospital suffering from the effects of having eaten seeds taken from the pods of a Laburnum tree. They each showed symptoms of poisoning, and emetics had to be administered. Two of them were so ill that they had to be detained. The children had been playing in the churchyard at St. James's Church, Edgbaston, and had picked the pods from a Laburnum tree and eaten them, not knowing that they were injurious."

— **THE POTATO DISEASE.**—The Potato crops in Cambridgeshire, Lincolnshire, Northamptonshire, and Huntingdonshire are said to be attacked with disease in consequence of the continued moisture of the land. The crops are everywhere exhaling the stench which demonstrates the presence of the disease, while the leaves are covered with the fatal black spot. These counties form one of the principal Potato growing districts in the country. For the past two years the breadth of Potatoes planted has been less than it formerly was, and the presence of the disease is therefore of serious importance.

— **BIRMINGHAM GARDENERS' ASSOCIATION.**—At a special meeting, on the 19th inst., Mr. C. H. Herbert, of the Sparkhill Nurseries, read a paper on the Carnation and Picotee, giving details of cultivation, propagation, and his results in hybridising. Mr. Herbert saved seed from Benary's superb yellow Germania, and not one of the seedlings at all resemble the parent except in good growth, for amongst them are various forms of florists' Picotees, a distinct bizarre fancy Carnation, and a very large yellow ground fancy Picotee. He also exhibited several varieties, including the new varieties he raised, also Benary's new sorts. Mr. Robert Sydenham also exhibited some very fine blooms, and a good discussion followed.

— **THE ESSEX COUNTY COUNCIL** has appointed an Organising Joint Committee, consisting of six members of their own body and six members of the Essex Field Club, to form a centre for supplying lecturers and teachers (with apparatus and materials), conducting examinations, and affording help and guidance to local bodies, in connection with the recent grants towards technical instruction. A grant of £900 has been made for these purposes. The members of the Committee are: (representing the County Council) Mr. E. N. Buxton, Mr. E. A. Fitch, Mr. J. H. Burrows, Mr. S. W. Squier, Mr. F. West, and Mr. W. B. Whittingham; (for the Essex Field Club) Prof. Boulger, Mr. F. Chancellor, Prof. R. Meldola, F.R.S., Sir Henry E. Roscoe, M.P., F.R.S., Mr. F. W. Rudler, and Mr. J. C. Shenstone. The Organising Secretary to the Committee is Mr. W. Cole, 35, New Broad Street, E.C.—(Nature.)



— **ANTWERP EXHIBITION.**—A temporary Horticultural Exhibition will be held in connection with the International Exhibition at Antwerp from the 13th to the 20th of September, consisting mainly of plants from North America, the tropical Andes, Brazil, Mexico, Northern and Central Africa, Cape of Good Hope, China, Japan, British and Dutch Indies, Central Asia, Central and Mediterranean Europe, Belgium, Australia, and Oceania. Entries are to be sent to Le Président du Comité Exécutif de l'Exposition Internationale d'Anvers, à Liège, lez-Anvers, Belgique, by the 5th of September.

— **WARE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—On Wednesday, the 19th inst., a large number of the members of this Society paid a visit to the Royal Horticultural Society's gardens, Chiswick, when by special arrangement they were enabled to inspect the varieties of Tomatoes on trial, the vineries, and other houses, also the various plants and crops on trial in the grounds. The Royal Gardens, Kew, were also visited, and the afternoon well spent in the houses, museums, and grounds. After a very interesting and instructive day the members returned well pleased with the visit to these places of interest.

— **GLOBE FLOWERS (TROLLIUS)** are useful in the herbaceous borders. *T. europæus major*, which is said to be an improvement on the old form, and *T. japonicus plenus* (Fortunei), orange scarlet, give colours which are scarce at any time in the border. The foliage of the Trollius is interesting in itself, while the growth and freedom in flowering are all that could be desired.—M.

— **HOLLYHOCKS.**—Messrs. Stuart & Mein write:—"We beg to send herewith some blooms of Hollyhocks of which we make a specialty. Our plants are from 8 to 12 feet high, and the blooms enclosed can give you only a slight idea of the beauty of the spikes. We have been more successful with them this season than we have been for twenty-five years, and an old grower, when amongst them the other day, said he hadn't seen such Hollyhocks since he was a boy, so the future looks brighter." The varieties sent were as follows:—Grace Darling, rose; Oetoroon, rich crimson; Cygnet, pure white; Mrs. Maynard, pale yellow; Pride of Layton, rosy salmon; Favourite, soft pink. All the flowers were of excellent form and substance.

— **THE WAKEFIELD PAXTON SOCIETY.**—With the object of promoting a taste for domestic floriculture, a "Window Garden Exhibition" is annually held under the auspices of this Society. The Show of last week appears to have been a great success, and was attended by 5000 or 6000 people. Commenting on it the "Wakefield Express" says:—"The Paxton Society keeps up its high reputation as an educational agency in a centre whose traditions are somewhat out of harmony with the objects of the organisation. In these days of 'free education' the Society may claim the honourable distinction of having always acted upon that principle. Their exhibitions have been open gratuitously to the public at large, as a rule they have relied upon themselves rather than on the public for funds, and it is literally true to say that the educational and refining influences which they have called into action are to-day permeating the homes and moulding the dispositions of families in hundreds of the more humble homes in the city and its suburbs. It is an honourable record, and deserves to be held up every year as an incentive to others to go and do likewise, according to the measure of their ability and opportunities." To those observations we say hear, hear.

— **HEAVY RAINS NEAR LONDON.**—The heavy rain which set in over the southern counties of England last Thursday continued steadily throughout the ensuing night, and by 8 A.M. on Friday some very large amounts had been measured. In the London district the quantity varied from 1.1 inch at Westminster to 1.3 inch at Wandsworth Common, and 1.4 inch at Clapham and Brixton. The meteorological correspondent of the "Daily News" says the amount of rainfall in London was the heaviest recorded on any one day for more than a year past, the most recent instance of so large a fall being that of the 17th of July, 1890, when as much as 1.8 inch was measured as the result of a tremendous thunderstorm which visited this part of the country. From an examination of the London records for many years it would appear that a daily rainfall of over an inch occurs on an average scarcely more often than once in twelve months. During the past twenty years there have been just twenty-four such occasions, the number per annum varying from four in 1879 and three in 1878 and 1886 to none at all in 1872, 1874, 1877, 1882, 1883, 1884, 1887, and 1889. In eight years of the past twenty, in fact, there was no instance of so heavy a rainfall as that which visited the metropolis on the days named.

— **TOP-HEATING.**—I wonder more hothouses and pits are not heated from the top as well as the ordinary way. I have a 2-inch socket pipe running along the purline and along the point towards the eaves, inside of course. All persons know that hot water rises to its highest part first, consequently these pipes become hot first, and we have a stratum of the hottest air along the glass, and consequently there is no condensation. As this stratum of air is first heated it acts as a kind of cushion; the air subsequently heated rises to this, and is then deflected and falls like dew on the plants instead of condensing on the glass and creating a drip. I have used this mode of heating in Orchid houses, vineries, plant houses, and pits now some four or five years, and the houses were put up by Messrs. Foster & Pearson of Beeston. My gardeners like the mode of heating much, and say that no other form of heating is so perfect. They never have anything damp off; in fact, take just the number of cuttings they want, and never think of any loss from the cause just named. Melons, Cucumbers, Tomatoes, grow wonderfully well and bear correspondingly. We have been picking Tomatoes since March, and Cucumbers also. The Vines (early) have borne well, but the late ones have only small crops.—J.

— **NEWCASTLE AND TYNESIDE HORTICULTURAL MUTUAL IMPROVEMENT ASSOCIATION.**—On Friday last the inaugural meeting of this Association was held in the Lecture Room of the Literary and Philosophical Society, Newcastle. There was a large attendance. The following officers were elected:—Mr. Norman C. Cookson, President; Mr. Thos. Bell (Ex-Mayor) and Mr. Wm. Angus, Vice-Presidents; Chairman of meetings, Mr. Bernard Cowan; Vice-Chairmen, Messrs. P. H. Irvine and A. Heslop; Treasurer, Mr. R. Moffitt; J. Hood, Jun., Secretary. Gardeners' Committee, Messrs. Pringle, Russell, Spalding, and Adamson; under gardeners, Messrs. Elliot, Robertson, Kennedy, and Bell; amateurs, Messrs. Jackson, Scott, Harwood, and Nicholson. After the election of officers under the presidency of Wm. Angus, Esq., Mr. Bernard Cowan of South Shields gave the inaugural address. He dwelt upon the advantages of a Society like theirs, where mutual intercourse with each other was useful, both for imparting information and forming friendships, he mentioned that young gardeners might gain a great deal of knowledge by attending the meetings, and particularly urged on them the necessity of constant study to keep pace with the times. He hoped as many amateurs as possible would join, and pointed to the necessity of a Society for imparting knowledge that might be useful, as the County Council were affording easy facilities for obtaining land for garden purposes. The speaker addressed them over forty minutes, when the Chairman and he both received a vote of thanks.

— **LONDON PARK SUPERINTENDENTS.**—Some changes are taking place in the superintendence of the London public parks, and this, with the opening of a new enclosure, has created two vacancies for superintendents. After twenty-two years of service at Finsbury Park death has ended the career of Mr. Cochrane. He discharged his duties with credit to himself and advantage to the public, and the park had become famous for general high keeping and the special excellence of Chrysanthemums. The vacant post has been filled by the appointment of Mr. Melville, who has done good work at Dulwich Park, and deserves his promotion. The position he vacates has been offered to and accepted by Mr. J. W. Moorman, now at Brockwell Park, and who so ably superintended the laying out of Myatt's Fields, a small park at Camberwell. By his appointment the excellent collection of alpine and herbaceous plants got together at Dulwich Park by Mr. Melville will fall into good hands, and there can be no doubt that this beautiful South London enclosure will increase yearly in interest to the flower lover and attractiveness to the public. Mr. Moorman's post at Brockwell Park, together with the superintendence of Waterlow Park, Highgate, will be filled by fresh appointments, applications for which are now being invited by the London County Council. The salary at Brockwell Park, which is at Herne Hill in the south-eastern district, will be £100 a year, rising to £125; and that at Waterlow Park £80, rising to £105, a residence free of rates and taxes and supplied with gas and water being included in each case. Brockwell Park is possessed of great natural beauty, and it is hoped and expected that the Council will retain its present character. There is no flower gardening. Waterlow Park is, we understand, beautifully laid out, and will give plenty of scope for taste and skill on the part of the person appointed. Forms of application may be obtained from Mr. H. De la Hooke, Clerk of the Council, Spring Gardens, London, S.W., and must be sent in by September 13 h.





## LARGE AND SMALL GROWERS.

IN reply to "An Exhibitor," who says "Another season has passed and nothing has been done by the Committee of the N.R.S. to relieve a grievance still existing," I feel rather like the Irish defendant in a certain case who was sued for damages on the ground that he returned a lent kettle with a hole in it. He pleaded, if I recollect right, first that he returned it in a sound state; secondly, that he received it with a hole in it; thirdly, that he never had it all.

In the same way, if Irish myself, I would plead first that if nothing has been done it is because "An Exhibitor" and his friends took no steps to bring the matter before the N.R.S. in the proper manner; secondly, that the N.R.S. have done something by adding at least one class and two medals in the direction desired; and, thirdly, that no such just grievance existed or still exists.

In my humble opinion "if the arguments of 'J. B.' and 'An Exhibitor' have been of no avail" it is because they have been refuted.

I do not know what constitutes "growers in the upper divisions."

In the case at Hereford, as cited by "An Exhibitor," no case whatever is made out against the schedule or the management. On the contrary, as he himself admits, justice was done. Considering the nature of the cards supplied to exhibitors I do not see how there could be an infringement of regulation 2 without detection.

"Fair play is the only jewel" large "growers ask for;" but that in a backward season small growers should as usual be able to compete with those of their own standing while large growers are not allowed to exhibit at all does not seem fair play to—W. R. RAILLEM.

## BRIGHTON CHRYSANTHEMUM AND NEW HORTICULTURAL SOCIETIES' ANNUAL OUTING.

THE Brighton gardeners and their friends had their second annual outing on Thursday, the 18th inst., Redhill being their destination. The party started from Brighton a little before 8 o'clock, and were joined by others at the various stations. Arrangements had been made for an inspection of four of the best gentlemen's gardens in the neighbourhood of Redhill and Reigate. A start was at once made for Gatton Park, the seat of G. Colman, Esq. This is a beautiful old place standing on an eminence some two miles from Redhill. It is surrounded by a beautifully wooded park of considerable extent, the rich green of the pastures and the huge proportions of the Oaks and Elms giving good evidence of a fertile soil. Under the guidance of Mr. Ormiston, the able gardener and his assistants, the party at once commenced a tour round the garden and the extensive ranges of houses. Those first entered were a new range of span-roofed plant houses well stocked with clean healthy plants, two of them being occupied with Orchids. Behind these stands a fine range of forcing pits, also span-roofed, used for Cucumbers, Melons, Tomatoes, &c., and in one was a large stock of Primulas, Mignonette, and other autumn and winter blooming plants. We next passed through a range of what in olden times had been Pine pits in three divisions, but now occupied with Vines, at present carrying a crop of good serviceable Grapes. Chrysanthemums were next critically examined. About 300 plants are grown chiefly for large blooms in the orthodox style; they looked well, and promised good results. A move was then made for the front of the mansion, where a splendid view of the country round and beyond Redhill and of the park, the large lake now seen for the first time, together with the beautifully wooded Reigate hills to the right, make a charming picture not easily forgotten. On the lawn to the south of the house are some very large Elms that would compare favourably with any at Windsor or elsewhere. After having a peep into some of the mysterious underground passages, we were admitted into the marble hall. This is a marvel of itself, the floor and the walls being wholly of marble wrought out in beautiful designs. In the recesses are exquisite statuary of the same material, and in the centre is a table of elegant design, in which is concentrated all the brightest coloured marbles to be found. The mansion is now undergoing extensive alterations on the south and west fronts, which, when finished, will doubtless greatly improve those parts.

Our party then wended their way through the Park towards Reigate, feeling that we had seen a place the history of which would be worth reading up. A short halt was made on reaching the top of Reigate Hill, where there is a fine bird's-eye view of the town at our feet, and the view of the country beyond is splendid. All round it is beautifully timbered, with here and there stately mansions rearing their turrets and towers, and far to the south, over the tops of the higher ground in north and mid-Sussex, are dimly seen the rounded outlines of the South Downs. From this vantage ground we had pointed out to us the various places we were about to visit, and although we would fain have lingered over such a scene time would not permit, and the journey down to the valley was soon accomplished. The next halt was made at

## WRAY PARK,

the residence of G. Simpson, Esq. Here we were welcomed by Mr. Hoad, who conducted us through the glass structures and over the

highly kept grounds. In the former a great number of Orchids are well grown, and all departments showed good management. This place is justly celebrated for its extensive carpet bedding. The principal beds and borders are laid out in artistic designs, the groundwork being dwarf neatly kept Box, and the spaces filled in annually. Many hardy plants are used, and the whole enlivened with bright-coloured Alternantheras. In other parts of the grounds were some beds of Begonias, which looked very bright, and hardy herbaceous plants were freely planted in the shrubberies. Mr. Hoad accompanied the party to Reigate, taking a hurried look round the Castle grounds before luncheon at the Grapes Hotel.

## WOODHATCH LODGE.

Mr. Salter, gardener to T. B. Haywood, Esq., who had joined the party at luncheon, now took the lead on the road to that place. On reaching the entrance he pointed out a beautiful specimen of the Maidenhair Tree, *Salisburia adiantifolia*, standing close to the road on the left-hand side. It is at least 40 feet high, of a pyramidal shape, well furnished, and in excellent health. Inside the lodge gates a branch of a very fine weeping Beech has been carried across the drive, forming a peculiar arch with its drooping branches. Beech is quite at home here, there being some fine specimens, and also some grand old Cedars of Lebanon. We passed through several houses of Orchids, admired the elegant Palms and various stove plants, the Begonias in the Peach house, and the crops of fruit on the walls behind them. We must not pass over the Chrysanthemums. They are in strong force, about 1000, the majority being tall plants, and to judge by the "timber," Mr. Salter may expect to have something for the Aquarium when the time comes. We next passed through an orchard some little distance from the garden. The trees are healthy, carrying good crops, and seem to be treated and pruned on a rational principle. There is also a large square of Roses planted in rows of one sort for cutting, more like nursery style than a gentleman's garden. But we must hasten on to our next place, which is situated on much higher ground, and the walk up the hill was not much to the taste of the now rather tired pedestrians. In consequence of this the party was not in very good marching order. On reaching

## HIGH TREES,

the beautifully situated seat of W. B. Waterlow, Esq., Mr. C. Goldsmith, who is well known to most frequenters of Brighton shows, gave them a hearty welcome, and at once led the way round the grounds. The beds of hardy Azaleas and Rhododendrons must be very fine when in bloom. Symmetrical specimens of choice variegated Hollies, Retinospora, and other Conifers meet the eye at every turn, and hardy flowering plants are in plenty wherever there is space for them. On the front terrace are some beautiful carpet beds, but the subtropical beds were more admired, if that were possible.

This is evidently a good place for fruit of all sorts. Mr. Goldsmith takes a great interest in hardy fruit culture, and his success is well known. Lingerer over these matters brought out the query, "But where are the mums?" "Oh, we are coming to them," was the reply. And we did, some 1300 altogether. But Mr. Goldsmith does not believe in "long legs" at all, nearly the whole of his plants having been cut down, and it may safely be said that very few exceeded 2 feet in height, and the buds are now being "taken" as they come. A splendid lot of plants. In the plant and fruit houses everything was on a par with what we had already seen, but I must not omit to mention his Begonias. Two houses especially devoted to them made quite a show of themselves. All were thoroughly satisfied with what they had seen. If these disjointed notes see the light of day I am afraid it will give members who were absent but a very faint idea of the treat they lost. That the members of the societies will take the earliest possible opportunity of passing a hearty vote of thanks to the gentlemen who kindly threw their gardens open for inspection, as they did to Mr. Miller, who presided at the luncheon, and Mr. Longhurst, who organised the trip, is the desire of—ONE OF THE PARTY.

## ROYAL HORTICULTURAL SOCIETY.

THE usual fortnightly Committee meetings were held at the Drill Hall, Westminster, on the 25th inst. The building was not quite so full of exhibits as on some previous occasions, but the display was good, and, what is equally important, well varied in character. Gladioli and Dahlias were, as might have been expected, particularly prominent. Fruit, vegetables, and Orchids were few, and the chief work devolved upon the other Committee.

FRUIT COMMITTEE.—Present: P. Crowley, Esq., in the chair, and Dr. Hogg, with Messrs. G. Bunyard, R. D. Blackmore, J. H. Veitch, J. Cheal, W. Warren, T. J. Saltmarsh, A. Dean, G. Norman, G. Wythes, H. Balderson, W. Bates, A. H. Pearson, and J. Wright.

Mr. A. Bishop, gardener to R. Burrell, Esq., Westley Hall, Bury St. Edmunds, sent a large oval-shaped beautifully netted Melon, decidedly over-ripe. It was possibly very good a day or two ago, but fermentation had commenced, and therefore no opinion could be formed on the merits of the variety. Mr. Wilson, gardener to C. S. Sullivan, Esq., Broome House, Fulham, sent a fine-looking, round, yellow, well netted Melon, but its quality by no means equalled its appearance, and it was passed. Mr. Wythes also sent a Melon of promising appearance, but the quality was the reverse of satisfactory. Possibly the dull weather may have prejudicially influenced the ripening of the Melons exhibited.

Mr. W. H. Bannister, gardener to St. Vincent Ames, Esq., Westbury-



on-Trym, Bristol, sent a good dish of well-coloured Doyenné de Boussoch Pears, for which a vote of thanks was accorded. Mr. W. Roupell, Streatham Hill, sent four excellent dishes of early dessert Apples—Mr. Gladstone, Irish Peach, Red Astrachan, and Devonshire Quarrenden, grown on dwarf trees in his garden within five miles of Charing Cross. They were very good and remarkably well coloured, Mr. Roupell attributing their rich appearance largely to the use of soot in the soil, and he is probably right. Mr. T. Laxton, Bedford, sent a dish of a new dessert Apple named Harvest Queen. The fruits somewhat resemble Irish Peach in character, but were much paler and less richly flavoured than that excellent variety. No award was made. Mr. T. Burton, Bexley Heath, sent four boxes of very fine Peaches, and a vote of thanks was accorded, a medal having previously been recommended for his produce.

Sir Trevor Lawrence, Bart., M.P., sent fruits of *Prunus Pissardi*,

request was made that a dish be sent to Chiswick for comparison with the varieties grown there. It is no doubt an excellent variety. Messrs. Sutton & Sons sent samples of their new climbing Bean Tender and True. The pods were straight, stout, and brittle, somewhat resembling fine examples of Canadian Wonder, but thicker, and they were borne in extraordinary profusion on plants that were sent to show the productiveness of the variety. As this new Bean is being grown at Chiswick it was considered advisable for it to be inspected there with others that would be brought under notice. It was stated in discussion that when Dwarf Kidney Beans, such as Canadian Wonder and others, are grown in Italy and the warm districts of Southern Europe generally that they develop into runners—a circumstance that is by no means generally known in this country.

FLORAL COMMITTEE.—Present: Messrs. W. Marshall (in the chair), B. Wynne, Herbst, R. Dean, C. T. Drury, W. C. Leach, W. Goldring,



FIG. 27.—GATHERING STRAWBERRIES AT SWANLEY. (See page 172)

identical with those of the Myrobalan or Cherry Plum, from which the purple-leaved variety presumably originated either from seed or by sporting (vote of thanks). Dr. Hogg placed on the table fruiting sprays of a Plum almost exactly resembling Cherries, but rounder, glossy red in colour, and deepening to nearly black when fully ripe. They were the growths of the stock on which a double flowering Peach had been worked that he obtained from the Continent many years ago. The variety was new to him and apparently all else at the table, but it was thought it might be a seminal variety of the Myrobalan. Dr. Hogg drew attention to the circumstance that though several varieties of Plum stocks were well known and largely employed by nurserymen little or nothing appeared to be known about their fruits. A vote of thanks was accorded to the Doctor for the specimens and his observations.

Mr. James Foster, 14, Horse Market, Kettering, sent a dish of fine looking white kidney Potatoes named Tit Bits, but no award was made. Mr. W. C. Leach, gardener to the Duke of Northumberland, Albury Park Gardens, Guildford, sent a dish of Sutton's Emperor of Germany Runner Bean. The pods were straight, very fleshy, and brittle, and a

G. Phippen, G. Nicholson, H. Cannell, C. Jefferies, T. Baines, H. H. D'Ombra, W. Bain, C. E. Pearson, W. Ingram, C. Noble, J. Fraser, W. H. Williams, and Jas. Walker. Amongst the plants in the scope of this Committee,

Dahlias were a strong feature. There was quite a large display of them in the various sections. Messrs. Cheal & Sons of Crawley had some beautiful stands of Show, Bouquet, Cactus and single varieties. The latter comprised a number of well-known varieties, together with one or two novelties. T. W. Girdlestone is a remarkably neat and pleasing bloom, not too large; the petals white, margined broadly with crimson. Cleopatra is purplish brown, Duchess of Fife dull orange, and Eclipse rosy magenta. The Cactus and Decorative varieties also embraced several of comparatively recent introduction. Black Prince (new) is a large bold flower, purplish black, and darker than Zulu. Robert Maher, Lady E. Dyke, Henry Patrick, and Marchioness of Butte were all noteworthy. Messrs. Cheal also had a collection of their Tom Thumb Dahlias in pots, and ranging from 9 to 15 inches in height. A vote of thanks was awarded for these, and a silver Banksian medal for the larger collection. Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, had some very



fine Show and Fancy Dahlias, as also had Mr. Arthur Rawlings, Romford, comprising several seedlings. The former received a bronze Banksian medal. Messrs. Keynes, Williams & Co., Salisbury, were awarded a silver Banksian medal for a very handsome collection of different classes of Dahlias, comprising several seedlings of the Cactus and Decorative group. Ione is a fine rich magenta-coloured flower, Baron Schröder being of a somewhat similar shade, Kynerith and St. Catherine described below are very beautiful. Messrs. Cannell & Sons of Swanley (bronze Banksian medal) and Mr. Phippen of Reading (silver Flora) also had displays of this popular group. Kentish Sun in the former collection was very brilliant, Eynsford Gem a rich carmine, Pride of Swanley white heavily suffused with rose. One of the most distinct varieties was Robert Cannell, carmine with curiously twisted florets, a very beautiful and striking flower.

Gladioli were splendidly shown by the great Langport specialists, Messrs. Kelway & Sons. They occupied about 70 feet of staging, and embraced some of the finest varieties of these beautiful autumn flowers. A silver-gilt Floral medal was awarded.

Miscellaneous exhibits comprised much that was of interest. Messrs. Kelway had a stand of French and African Marigolds. Mr. W. H. Divers, Ketton Hall Gardens, Stamford, exhibited a beautiful collection of border Carnations, and received a bronze Banksian medal. Six plants of Ketton Rose were shown as lifted from the open border, and the variety is recommended as very hardy and free flowering. Others were shown as cut from plants in the open that had not received any protection or been disbudded. Mr. J. Walker Thame, had a seedling self Carnation named Odorata, a flower that should prove useful. Some of the blooms were almost pure white, and others suffused with delicate rose. The variety has a pronounced Clove scent. Messrs. J. Veitch & Sons had a box of Java Rhododendrons, small-flowered forms of value for pot culture; also a small marbled-leaved Begonia named Marie Louise. Messrs. Cannell & Sons had a small collection of double seedling Begonias. Messrs. Wallace & Co., Colchester, exhibited *Lilium eximium giganteum*, evidently a free flowering form; *L. eximium magnificum*, with still larger flowers; and *L. takesima*. A bronze Banksian medal was awarded to them. Mr. A. Campbell, Lord Street, Southport, exhibited *Scolopendrium vulgare crispum* Campbelli, a very beautiful form. Messrs. Hugh Low and Co., Clapton, received a silver Banksian medal for *Lilium nepalense*, a yellow species with recurved petals, the centre of the flower heavily blotched with purple, and *L. Wallichianum superbum*, pale yellow, very large and fine. Messrs. J. Veitch & Sons showed the handsome white flowered shrub *Eucryphia pinnatifolia*, *Colletia spinosa*, *Retinospora squarrosa*, *R. s. sulphurea*, tinged with pale yellow and quite hardy, *Cupressus arizonica* (hardy) and *C. Lawsoniana versicolor*. Messrs. Dicksons, Limited, Chester, had the new border Carnations Lady Gerard, Mr. C. R. Humbert, and Miss Greenall; and Mr. Swanson, nurseryman, Barton-on-Humber, Hull, also exhibited some seedling Carnations. Messrs. R. Veitch & Son, Exeter, showed single Asters, while Asters and Perennial Sunflowers came from Chiswick. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had a small collection of Dahlias, Lilliums, Carnations, and Chrysanthemums. A very interesting collection of Oak foliage, comprising thirty-six varieties, came from Mr. Quartermain, gardener to C. E. Smith, Esq., Silvermere, Cobham. Mr. G. C. Powell received a vote of thanks for hybrid Gladioli.

AWARDS.—The following received first-class certificates:—

*Hypericum Moserianum*.—Large rich yellow flower with a profusion of stamens, and reddish leafstalks; distinct and handsome. Exhibited by Mr. A. Waterer, Knap Hill.

*Cupressus arizonica*.—Dull greyish green foliage, growth slender and graceful, habit bushy and compact. Exhibited by Messrs. J. Veitch and Sons.

The following flowers received awards of merit:—

*Show Dahlia John Walker*.—A large and very handsome bloom; white faintly suffused with lemon. Exhibited by Mr. J. Walker, Thame.

*Show Dahlia Mrs. McIntosh*.—A flower of admirable form, colour old gold. This and the following three came from Mr. Arthur Rawlings.

*Show Dahlia John Rawlings*.—Very large, fine form, pale mauve, distinct colour.

*Show Dahlia Mrs. Lewis Standbridge*.—Good form, clear amber hue.

*Show Dahlia Arthur Ocock*.—A large flower of perfect shape, colour crimson scarlet.

*Single Dahlia T. W. Girdlestone*.—Exhibited by Messrs. Cheal and Son, and described above.

*Single Dahlia Miss Glasscock*.—Florets soft lavender, edge deep mauve; also from Messrs. Cheal & Sons.

*Cactus Dahlia St. Catherine*.—Bright yellow, large bloom, broad pointed florets.

*Cactus Dahlia Baron Schröder*.—Handsome form; colour rich magenta.

*Cactus Dahlia Kynerith*.—Rich red, with a glow of yellow in the centre; good form, with broad pointed florets. The three latter came from Messrs. Keynes, Williams & Co.

*Cactus Dahlia Swanley Cactus*.—Somewhat small flower, orange red. From Messrs. Cannell & Sons.

*Cactus Dahlia Robert Cannell*.—Described above; a perfect Cactus Dahlia. From Messrs. Cannell & Sons.

*Cactus Dahlia Delicata*.—Soft rose, good form. From Mr. T. S. Ware.

*Carnation Mr. C. R. Humbert*.—Scarlet self border variety, very free. From Messrs. Dicksons (Ltd.), Chester.

*Carnation La Neige*.—White self, fringed flower, Clove-scented. From Mr. T. S. Ware.

*Gladiolus Thalia*.—Very large flower, ivory ground, throat suffused with crimson. This and the following two came from Messrs. Kelway.

*Gladiolus James O'Brien*.—Beautiful salmon, large bold flower.

*Gladiolus Bias*.—Salmon red, throat blotched crimson.

PRIZES FOR GLADIOLI.—There was not much competition for the Gladiolus prizes. Mr. W. Herbert Fowler was the only exhibitor both in the class for twelve and eighteen, and was awarded the first prize in each case. His spikes were very fine, and he well deserved his position. The Rev. H. H. D'Ombraim was the only competitor with nine spikes, and was placed first.

ORCHID COMMITTEE.—Present: Messrs. J. Douglas (in the chair), H. M. Pollett, H. Ballantine, E. Hill, M. T. Masters, and J. O'Brien. The duties of this Committee were light, and the business was speedily disposed of. The following were the awards:—

*Zygopetalum grandiflorum*, exhibited by Messrs. Charlesworth and Shuttleworth, received a botanical certificate.

*Cypripedium Lowianum*, exhibited by Mr. J. Douglas, received a cultural commendation.

Awards of merit were made for the following:—

*Lælia elegans blenheimensis*, exhibited by T. Statter, Esq., Manchester. This was remarkable for the large, broad, and richly coloured lip, which is of a deep purplish magenta; sepals and petals rosy mauve.

*Cattleya Behrensiana* (*Lælia elegans* × *Cattleya Loddigesi*) exhibited by Messrs. F. Sander & Co., St. Albans. A charming hybrid; sepals and petals delicate lavender, lip rich magenta crimson.

*Sobralia leucoxantha* from Messrs. Seeger & Tropp. The plant shown was bearing a solitary flower, pure white; lip much fimbriated and recurving, showing the yellow throat.

Votes of thanks were awarded to Mr. Statter for *Lælia elegans Turneri*; to Mr. J. Prewett, Swiss Nursery, Hammersmith, for *Dendrobium Phalaenopsis Statteriana*; to F. Wigan, Esq. (gardener, Mr. W. H. Young), for *Acrides suavisimum*; and to M. S. Cook, Esq. (gardener, Mr. Cullimore), for *Cattleya velutina*.

Rev. H. H. D'Ombraim delivered a practical lecture on Gladioli in the afternoon, Dr. Hogg presiding.

## SHREWSBURY SHOW.

THOSE persons who have not seen the fine old town of Shrewsbury at the time of the annual Horticultural Exhibition can scarcely form an idea of the scene it presents when the people are flocking in to the beautiful Quarry grounds to admire the exhibits and generally to spend a day of recreation and enjoyment. It is the great gala day of the district, and on the 20th inst., the second day of the Show, no less than seventy excursion trains had to be emptied and filled at the station; or as a railway inspector stated the case, "140 trains, in and out; had to be dealt with." The town was decorated in the most profuse manner, the main street being almost canopied with flags, streamers, and emblematical devices in almost every imaginable colour. The crowd was enormous, and Fleet Street, one of London's famous thoroughfares, does not present a more animated appearance on Lord Mayor's day. Even the side streets and out-of-way places are decorated for the occasion. Business appears to be suspended for the time, and hotels are crowded. The Quarry grounds, delightful in character and appropriate for the occasion, occupied as they appeared to be with twenty or thirty large marquees for one purpose or another, and such a company as does not congregate elsewhere at a "flower show," were a sight to see and remember. A splendid feature of these grounds is a magnificent avenue of Limes that skirts the banks of the Severn in its semicircular course, and another cross avenue from the centre of the arc, forming lofty and complete arcades of foliage. The trees were planted 170 years ago, and must be considerably more than 100 feet high. In the centre of the grounds is what presumably has been the real quarry, now a beautiful sunken garden, bright with flowers, and cool, by a miniature lake that meanders through. Then the music is of the best that money can obtain, and various other attractions are provided; but the "Flower Show," as it is called, is the central attraction, and the tents are densely crowded all the time with visitors. It is easy for straight-laced horticulturists to raise objections to auxiliary attractions at shows, but in such places as Shrewsbury the difficulty is not to get people into the tents, but out of them, so that the greatest number may have an opportunity for at least glancing at the plants, flowers, fruit, and vegetables, in which they are evidently deeply interested, and therefore counter attractions are a necessity of the case.

The Shrewsbury Show is a great representative exhibition of garden produce, and taking all departments and the different classes of exhibitors into consideration, it may be safely said the Show of last week has never been surpassed, if equalled. Specimen plants were of the best that could be produced at the season; artistically arranged groups excelled all other competitions of the nature yet presented; flowers were staged in great profusion and variety; fruit was extensively and well shown, but the Grapes, as a rule, not quite finished; and vegetables were remarkable for their numbers and the cultural skill displayed in their production. The cottagers' exhibits were extraordinarily good,



vegetables especially; while fruit was well and flowers admirably staged by the humble toilers. Eighteen Judges were engaged to adjudicate, and there was not one too many for doing their work well in the appointed time.

The finances of the Society are altogether exceptional, the accumulated amount after all expenses were met at the beginning of the year being no less than £3251 5s. 5d. With such a large balance the Committee decided to increase their long prize list. This proved a wise step, and brought together no less than 3150 entries. Their principal increase was for the best arranged group of miscellaneous plants in 300 square feet. As was stated last week, the first prize of £20 was won by the Duke of Sutherland's gardener, Mr. Peter Blair, who certainly ought to be proud of his work, as no doubt the exhibit was one of the best of its kind ever seen at any show. The specimen plants were so fine, and the competition so close, that the Judges, in their efforts to do justice, were driven to award equal first prizes to Messrs. Marriott and Cypher. Specially noticeable among the vegetables were the grand first prize collections of Messrs. T. Wilkins and C. J. Waite; the centres of attraction in the fruit classes being the premier collection of Mr. Goodacre and the Grapes of Mr. Bannerman. In a show of such magnitude only the chief prizewinners and their productions can be briefly enumerated.

**PLANTS.**—Groups of miscellaneous plants.—First, Duke of Sutherland, Trentham. This was a specially well arranged group, the chief plants being Palms, Crotons, Orchids, Tillandsias, Liliiums, Anthuriums, and Caladiums, artistically disposed in a series of mounds and dells. Second, J. H. Sutton, Esq., Newark-on-Trent (gardener, Mr. A. Webb). This group would have been easily first at most shows, but it lacked the refinement and taste displayed in the former. Third, Col. Pepper, Salisbury (gardener, Mr. Currey). Fourth, C. H. Wright, Esq., Oswestry (gardener, Mr. C. Roberts). Fifth, Messrs. Jones & Sons, Shrewsbury.

**Specimen Plants.**—Sixteen stove and greenhouse plants, not less than six in bloom.—As before stated Messrs. James Cypher and Mr. James Marriott, Coventry, were placed equal first. Mr. Cypher's best plants were grand specimens of *Phenocoma prolifera* Barnesi, *Bougainvillea glabra*, *Ixora regina*, and *Croton angustifolius*; Mr. Marriott's most noteworthy examples being *Ixora Duffi*, splendid; *Dipladena floribunda*, and *Ixora Williamsi*. Third, Mr. Currey. Six stove and greenhouse plants, open to Salop only.—First, Mrs. Juson, Monklands, Abbeyforegate (gardener, Mr. J. Farrant) with well grown specimens, *Croton majesticus* and *Ixora Williamsi* being remarkably well shown. Second, H. H. France Hayhurst, Esq., Wellington (gardener, Mr. S. Brimmell). Third, Lord Berwick, Attingham Hall (gardener, Mr. Pearson), with creditable examples. Six exotic Ferns.—First, C. H. Wright, Esq., Oswestry (gardener, Mr. C. Roberts), with good clean fresh specimens. Second, Mr. J. Cypher with larger specimens. Third, Mrs. Juson. Six exotic Ferns, Salop only.—First, Mr. H. H. France Hayhurst. Second, Mr. G. Burr. Third, Mrs. Juson. Six plants in flower.—First, Mr. J. Marriott, his best specimens being *Bougainvillea glabra* and *Ixora Williamsi*. Second, Mr. J. Cypher. Third, Mrs. Juson.

A group of not less than twenty Orchids in flower.—First, Mr. J. Cypher, whose exhibit was of great excellence, the plants being healthy and well flowered. Second, the Duke of Sutherland with a charming assortment. Four Orchids in flower.—First, James Watson, Esq., Berwick Hall (gardener, Mr. A. Grant). Second, Mrs. Juson. Six Palms.—First, Mr. J. Cypher with very fine specimens. Second, the Duke of Sutherland. Third, Mr. Sutton. Six *Dracenas*.—First, H. H. France Hayhurst, Esq. Second, Mrs. Juson. Third, J. H. H. Sutton, Esq. Six *Caladiums*.—First, Mrs. Juson with well grown plants. Messrs. H. H. France Hayhurst, A. Myers, and J. Laing, Cherry Orchard (gardener, Mr. Francis Morris), took the prizes for *Coleus* in the order named. Mr. A. Myers was first for *Fuchsias*, also for double and single *Pelargoniums*.

In the amateurs' classes Mr. H. Owen, Mr. R. Taylor, the Hon. W. H. Herbert, Mr. W. Beacall, Mrs. L. Burd, and Mr. C. H. Smith were the most successful exhibitors. In the class for twelve table plants the Duke of Sutherland was first. Second, Mrs. Juson. Third, Mrs. Watkins (gardener, Mr. J. Birch). For fifty miscellaneous plants Major-General The Hon. W. H. Herbert, Mr. R. Powell, and Mr. G. Burr were successful in the order named; Mrs. Wade, H. Owen, Esq., and G. Burr, Esq., taking the prizes in the corresponding class for twenty-five plants. The competition was good in all those classes, and the exhibits reflected credit on the several cultivators.

**CUT FLOWERS.**—This department of the Exhibition was an improvement on all previous years, and a powerfully attractive feature. In the class for twenty-four Roses Messrs. Perkins & Sons, Coventry, were first with a capital stand, considering the weather and season, excellent blooms in it of Her Majesty, Mrs. John Laing, Susanne Rodocanachi, and Duke of Connaught, attracted attention. Second, Messrs. Dickson, Limited, Chester. Third, Mr. E. Murrell, Shrewsbury. Liberal prizes of £5, £4, and £3 were offered for a collection of Dahlias, all kinds, and Messrs. Jones & Sons, nurserymen, Shrewsbury, had a very good assortment of Cactus, single and Pompons, admirably displayed with a large number of Show Dahlias in the front. Two other smaller collections were staged for the second and third prizes by Messrs. J. Walker and Heath & Sons. In the class for twenty-four Show Dahlias Mr. J. Walker, Thame, Oxon, was first with bright, well finished blooms, Mr. Wm. Shaw, Kidderminster, being second. A certificate was awarded to Mr. Walker for a fine and evidently constant white Dahlia, John Walker.

Prizes of £5, £4, and £3 were offered for a collection of Gladioli open

to nurserymen, but only one collection was staged, a grand one by Messrs. Kelway & Sons, Langport, consisting of 150 spikes, containing some beautiful new varieties. Certificates were awarded to Ellen Terry, white, exquisitely feathered with bright rose; Henry Irving, delicate pale salmon with deeper coloured centre; and Frank Miles, creamy blush with rich carmine stripes, yellow throat. All these are of the finest form, and of good substance. Amongst the collection as extra fine and striking were the following:—Pithys, Viscount Glenworth, Baron Schröder, intense deep scarlet with almost black stripes; Lord Shaftesbury, Satellite, General Cobert, Clarence, Lady Leigh, Lady Maefarlane, Duni, rich deep scarlet; Emperor William, Mrs. Grimwood, Electra, and Lady Carrington. Some good Asters were staged, Mr. J. Walker taking the first prize with well set up bright blooms of *Pæony* flowered.

There was a fine display of cut stove and greenhouse flowers in twelve varieties.—First, Mr. Finch, gardener to Mr. Alderman Marriott, Coventry, with grand masses of choice kinds. Second, Mr. G. Williams, with a very fine stand. Cut flowers of herbaceous plants were admirably represented. In the class for twenty-four, nurserymen only, Mr. Murrell, Shrewsbury, was well ahead with large bunches well arranged, and Messrs. Jones & Sons were an admirable second with a fine display.

Prizes of £5, £3, and £2 were offered for two bouquets, bridal and ball-room. There were five exhibits, and better bouquets are rarely met with at an exhibition. Messrs. Perkins & Sons, Coventry, were first with a pair of artistically made bouquets; Messrs. Jones & Sons, Shrewsbury, a very excellent second; and Messrs. Pope & Sons, Birmingham, third with fine examples, but too massive for ladies' use. Extra prizes of £1 each were awarded to the other two exhibitors, Messrs. Heath and Son and Mr. Chard, as their bouquets were so good.

Epergnes reflected very much credit on those who arranged them. Messrs. Jones & Sons were first; Mr. J. Cypher, Cheltenham, second; Mr. J. R. Chard, Stoke Newington, London, third. Some capital stands of Carnations and Picotees were staged, Messrs. Thomson & Co., Birmingham, being first in each class for twelve, also first for twelve Fancies or Sells. Mr. A. R. Brown, Handsworth, Birmingham, was second in each class for twelve Carnations, fine blooms of Little Phil and Thalia being in this stand; also for twelve Picotees. In Messrs. Thomson's stand of Carnations were very fine blooms of C. H. Herbert, Alisemond, Duc d'Aumale, Robert Houlgrave, and a very promising rose flake seedling. In their first prize stand of twelve Fancy varieties were fine blooms of A. W. Jones, Lilian, and Von Beningen. This firm also received certificates for their superb seedling Fancy Picotee, A. W. Jones, and new crimson bizarre Carnation C. H. Herbert.

Honorary exhibits were numerous. Messrs. Dobbie & Co., Rothesay, staged an extensive collection of Violas, fine Fancy Pansies, well striped French Marigolds, and the most perfect African Marigolds we have seen. Messrs. Henry Cannell & Sons, Swanley, exhibited fine double and single Begonia blooms; many of the doubles had great breadth of petal and were very fine; a collection of Cactus Dahlias, amongst them Mrs. Douglas, Beauty of Arundel, Maid of Kent, and Odin being very noticeable, and a stand of *Gladiolus Marie Lemoine*. Mr. R. B. Davis, Yeovil, staged very fine single and double Begonia blooms, amongst the latter a remarkably fine variety, Mrs. B. R. Davis, as excellent in form as a handsome Camellia, a light flower with a bright, light pink margin, to which a certificate was awarded. Mr. M. Campbell, florist, Blantyre, staged three dozen blooms of his good white Carnation Mrs. Muir, and stands of other Carnations and Picotees; also Fancy Pansies, amongst the latter a very fine variety, Mrs. M. T. Atkinson. Mr. Henry Eckford, Wem, Salop, sent twenty-four bunches of his newest varieties of Sweet Peas, nicely staged in bunches, amongst them the very fine varieties Mrs. Eckford, Ignea, Lemon Queen, Dorothy Tennant, H. M. Stanley, and others. Messrs. Thomson & Co. set up excellent border varieties of Carnations in loosely arranged bunches; Mr. Henry Pattison, Shrewsbury, Fancy Pansies and Violas; Messrs. Clibran & Sons, nurserymen, Altrincham, cut herbaceous blooms, Begonias, &c., including two new dwarf Tropæolums, Clibran's Gem and Mrs. Clibran, to which the certificates were awarded; Messrs. Dicksons, Limited, Chester, some fine Roses, also border Carnations; Messrs. Ryder & Co., Sale, Manchester, Tuberous Begonia blooms; The English Fruit and Rose Company, Hereford, a fine lot of Rose blooms, including a twenty-four box of Mrs. John Laing; Messrs. Hewitt & Co., Solihull, cut herbaceous and Cactus Dahlia blooms; Mr. Innes, florist, Rothesay, Fancy Pansies, including Maggie Lawrence, a fine Archie Buchanan style of flower; and Mr. A. Lister, Rothesay, Fancy Pansies, and a certificate for Mrs. McCorkindale, a fine variety.

**FRUIT.**—The competition was very keen throughout, and only those showing first-rate produce stood a chance of winning a prize. Lord Harrington's first prize collection of twelve dishes, grown by Mr. Goodacre, contained excellent bunches of Foster's Seedling and Gros Guillaume, also fine, but not quite finished, Muscat of Alexandria, and good Black Hamburg Grapes, with a capital Queen Pine and strong dishes of Circassian Cherries, Barrington Peaches, Melon The Countess, Kirk's Plum, Lord Napier Nectarine, Brown Turkey Figs, and Moorpark Apricots. Second, Hon. Mrs. Ingram, Leeds (gardener, Mr. R. Davies), the best dishes being Queen Pine, Black Hamburg Grapes, Sea Eagle Peaches, and Roman Nectarine. Third, W. A. H. Martin, Esq., Ledbury (gardener, Mr. J. Bailey). For nine dishes ditto, open to Salop only, Sir C. H. Rouse Boughton, Bart., Downton Hall (gardener, Mr. H. E. Kennedy), was first with good dishes of Muscat of Alexandria and Black Hamburg Grape, Noblesse Peaches, Eastnor Castle Melon, fine; Frogmore Late Pine Strawberry in excellent condition; Moorpark Apricots, Pineapple Nectarine, Brown Turkey Figs, and Peach Plums. Second



S. K. Mainwaring, Esq., Ellesmere (gardener, Mr. C. Pearse). Third H. T. Hayhurst, Esq.

In the class for six bunches of black Grapes there were six competitors, Mr. Bannerman's Alnwick Seedling, Black Alicante, and Black Hamburgh being very fine indeed; Mr. J. Barker's second prize bunches being larger, but not so well finished. Mr. W. Iggulden exhibited well for the third prize, an extra being awarded to Mr. H. C. H. Wynn. Ten competitors entered in the class for three bunches of Black Hamburghs, Rev. Bulkley Owen, Tedsmere Hall (gardener, Mr. J. Langley), S. K. Mainwaring, Lord Bagot, and Miss Christy (gardener, Mr. C. Griffin) being awarded the prizes in the order named. Three bunches of black, any other variety.—First, Mr. James Thorpe. Second, Mr. J. W. Raynes. Third, Mr. S. K. Mainwaring. Four bunches of white Grapes, two varieties.—R. Pilkington, Esq., was first with Foster's Seedling and Muscat of Alexandria, J. Thorpe, Esq., second, and the Earl of Harrington third. Three bunches of Muscat of Alexandria.—First, R. Pilkington, Esq., with superb bunches, well finished. Second, Mr. Charles Dawes. Third, Earl of Harrington. Three bunches of white, any other variety.—First, Earl of Cork, with well finished bunches of Foster's Seedling. Second, J. T. Harries, Esq., Stone, Staffordshire (gardener, Mr. G. Bates), with the same variety. Third, the Earl of Harrington. In the classes open to Salop only, the Rev. T. B. Owen, S. K. Mainwaring, Esq., and Captain Cunliffe were the successful exhibitors.

Peaches were plentiful and good; the Earl of Cork took first honours with a good dish of Sea Eagle, the same exhibitor being again first for Apricots. The Hon. Mrs. Ingram was the most successful in the Nectarine class with a well-coloured dish of Lord Napier, seventeen lots being staged. The best Plums, purple or red, were staged by Mrs. C. Davies, a good dish of Kirk's; the best yellow Plums by the Earl of Cork. Melons were very numerous, R. C. Naylor, Esq., being first with green-fleshed, and Mrs. Ingram with scarlet-fleshed. The best dish of Cherries were from the gardens of the Right Hon. Hume Dick (gardener, Mr. W. Palmer). In the classes for six dishes of hardy fruits Lady Sutton, Combermere, Mr. C. Davies, and Mr. F. Meares were successful in the order named. Special prizes were awarded to Mr. Sneyd for five dishes of Figs, and to Mr. Davies for five Pines.

**VEGETABLES.**—In the class for twelve dishes Lady Theodore Guest (gardener, Mr. F. Wilkins) won first honours with a grand collection, the dishes being Green Globe Artichokes, Sutton's Autumn Mammoth Cauliflower, Lyon Leek, Deverill's Ailsa Craig Onion, Giant White Celery, Ne Plus Ultra Runner Bean, Sutton's Perfection Tomato, Sutton's Student Parsnip, Duke of Albany Pea, and Sutton's Satisfaction Potatoes; second, Col. the Hon. W. P. Talbot (gardener, Mr. C. J. Waite), both with splendid produce. Third, the Earl of Dudley, Himley Hall (gardener, Mr. Coombes); six competitors. Six varieties, open to Salop only.—First, Capt. Cunliffe, with a good collection, his best dishes being Rousham Park Hero Onion, Carter's Jubilee Runner Bean, and Chancellor Potato. Second, W. R. Mansell, Esq. Third, Mrs. Juson.

Potatoes were in great force. In the class for six dishes the Earl of Dudley was first with superior dishes of Sutton's Satisfaction, Edgemoor Purple, Sutton's Abundance, Sutton's Windsor Castle, Cole's Favourite, and Early White Beauty. Col. Talbot was first for three dishes with Sutton's Seedling, Queen of the Valley, and Pride of Ontario. The classes for single dishes of vegetables were all well filled, the produce being of first-rate quality; the principal winners were Messrs. A. E. Payne, H. H. France Hayhurst; T. J. Lowe, the Right Hon. Hume Dick, Mr. W. E. King King, and the Earl of Dudley.

Messrs. Webb & Sons' special prizes for eight dishes of vegetables, to include two of their own varieties, brought a good competition, Col. Talbot being first with a grand collection, consisting of Mammoth Red Celery, Webbs' Early Mammoth Cauliflower, Cranston's Excelsior Onion (very fine), Webbs' Defiance Intermediate Carrot, Stourbridge Marrow Pea, Webbs' Renown Potato, Jubilee Tomato, and Scarlet Runner Bean. Second, Lady Theodore Guest. Third, The Right Hon. Earl of Dudley. Fourth, Capt. Cunliffe. Fifth, Earl of Latham. For Sutton & Sons' special prizes the classes were all well filled. Melons.—First, Earl of Cork. Second, Mrs. Juson. Cucumbers.—First, Earl of Cork. Second, Right Hon. Hume Dick. Tomatoes.—First, Earl of Dudley. Second, Hon. Mrs. Ingram. Dish of Peas, thirty pods.—First, T. Mears, Esq. Second, Right Hon. Hume Dick. Carrots.—First, Right Hon. Hume Dick. Second, E. W. Darby, Esq. Messrs. Carter and Co. also gave special prizes for their Jubilee Runner Bean, Blenheim Orange Tomato, also for their Blenheim Orange or Holborn Favourite Melons; Lady Guest, J. J. Craven, Esq., and the Earl of Cork being the principal winners. Mr. Robert Sydenham's prizes for vegetables were won by Messrs. R. J. Greator and H. H. France Hayhurst. Special prizes were offered for the heaviest bunch of Grapes by Mr. William Colchester, Ipswich. First, James Thorpe, Esq., with Black Hamburgh, 6 lbs. Second, H. H. France Hayhurst, Esq., 4 lbs. Third, Hon. C. H. Wynn, 3½ lbs.

**COTTAGERS' PRODUCE.**—As before mentioned, this was of a remarkable character. The Right Hon. Lord Harlech (President of the Society) kindly offered special prizes of £5, £3, and £2 for the best collection of eight dishes of vegetables, Cucumbers and Potatoes excluded. This brought together thirty-four exhibitors, the premier honour falling to Mr. Job Peplow, Bicton. Second, Mr. W. Haycock, Oswestry. Third, Mr. J. Beetlestone, St. Michaels Street. It is impossible to speak too highly of the produce in the cottagers' tent, and the prizes offered were well won by the several competitors.

**MEDALS.**—Silver medals were awarded to Messrs. Pritchard & Sons

for a collection of plants and cut flowers; Mr. E. Murrell, for a collection of plants and cut flowers; Messrs. Dobbie & Co., for Violas, Pansies, and Marigolds; Mr. Henry Cannell, Swanley, Kent, for new Cactus Dahlias, double Begonias, and Gladioli. Bronze medals to Messrs. Cutbush & Son, Highgate, London, and Mr. A. Myers for collections of plants and cut flowers.

**CERTIFICATES.**—In addition to those previously mentioned special certificates were awarded to Messrs. Dobbie & Co., Rothesay, for African and French Marigold blooms, also for a collection of Viola blooms; Mr. J. R. Chard, for Arcadian table decorations; Messrs. Lewis & Co., new Orchid, *Miltonia spectabilis alba*; Messrs. H. Cannell & Sons, Swanley, Kent, double Begonia blooms, new Cactus Dahlia, and *Gladiolus Marie Lemoine*; Mr. R. B. Davis, Yeovil, Somerset, double and single Begonia blooms; Mr. Peter Blair and Messrs. Jones & Sons, Shrewsbury, for groups of miscellaneous plants; Mr. H. Eckford, Wem, new varieties of Sweet Peas; Messrs. Thompson & Co., Birmingham, border Carnations and Picotees; Mr. J. H. Pattison, Shrewsbury, Viola and Fancy Pansy blooms; Messrs. Dickson & Sons, cut Rose blooms and border Carnations; Messrs. Ryder & Sons, Manchester, Tuberous Begonia blooms; Mr. H. Cuthbertson, Rothesay, cut herbaceous blooms; Messrs. Hewitt & Co., Birmingham, herbaceous and other cut flowers; the English Fruit and Rose Company, Hereford, collection of Roses; Messrs. Clibran & Sons, Altrincham, herbaceous cut flowers; Mr. Alex. Lister, Rothesay, for Fancy and Show Pansies; Mr. William James, Rothesay, for Fancy Pansies; Messrs. Clibran & Sons, for *Pteris serrulata Clibrani*; Messrs. R. Smith & Co., Worcester, for *Pteris serrulata Smithiana*; and Mr. Cuthbertson, Rothesay, for a new Leek.

The Judges were—Mr. J. Wills, Mr. A. Outram, and Mr. J. Wright, London; Mr. Colc, Althorpe Park, Northampton; Mr. Ranger, Aigburth Nursery, Liverpool; Mr. W. Dean, Sparkhill, Birmingham; Mr. G. T. Miles, Wycombe Abbey; Mr. R. Coleman, Eastnor Castle; Mr. H. Gadd, Lenton, Nottingham; Mr. J. Muir, Margam Park; Mr. H. W. Ward, Longford Castle; Mr. F. H. Pownall, Lenton Hall; Mr. W. Beacall, Shrewsbury; Mr. T. P. Blunt; Mr. T. Selwood, Eaton Hall; Mr. J. Lambert, Powis Castle; Mr. J. Jones, Cloverley; and Mr. P. Blair, Trentham.

**THE ATTENDANCE.**—The Show, as above indicated, was attended by thousands of visitors. On the first day there were present 15,000, and the amount taken at the gates was £315 16s. 2d., as against £311 13s. 9d. in 1890. The receipts from this source alone are greater than those of any Show in the history of the Society. On the second day there were present 45,000 persons. The actual amount taken at the gates was £1413 11s. 4d. To this must be added a sum of about £625, representing the sale of cheap tickets; £400, or thereabouts, for subscriptions; the amount realised by the sale of programmes, and the sums due to the Society by the various contractors, so that the actual receipts cannot fall far short of £3000.

**THE SOCIETY'S GIFTS.**—The Society has made many and valuable gifts to the town, these amounting in the aggregate to £2652. The record of the liberality thus bestowed shows that in 1878 a donation of £100 was made to the Corporation for improvements to the Quarry; in 1879 £233 was paid for erecting the band-stand; in 1881 the beautiful gates at the entrance to the Quarry were erected at a cost of £216 9s. 3d.; in the same year the Society gave a donation to the Salop Infirmary of £105; in 1888 they erected the smaller gates at the entrance at Quarry Place, and provided seats and music stands in the band-stand at a cost of £155 8s.; a donation of £105 was also given that year; in 1886 the handsome lodge at the entrance to the Quarry was built at a cost of £486 6s. 5d.; in 1887 a presentation of £105 for books was made to the Free Library; railings provided at the Quarry entrance (£112 13s. 6d.), and the band-stand enlarged at a cost of £304 12s. 3d., and in 1888 a donation of £300 was given towards the erection of the Shrewsbury Public Baths.

Messrs. Adnitt and Naunton, the courteous and indefatigable Honorary Secretaries, are adepts in the art of conducting large shows and large gatherings. On this occasion all things worked smoothly, and the officials are to be congratulated on the brilliant success achieved.

## BASINGSTOKE SHOW.

AUGUST 20TH.

THIS Show suffered like many others through the drenching wet day on which it was held. It took place in Hackwood Park, a site most suitable for such a gathering, as it affords ample space for promenading amongst the very fine timber trees with which the Park is thickly studded. Oaks and Beeches appear thoroughly at home, judging by the straight, clean stems which they are furnished with. The Exhibition was a thoroughly representative one, vegetables especially standing out boldly; indeed, such a name has this Society gained for kitchen garden exhibits that extra fine produce is expected here every year. Plants showed a slight falling off in number, but the quality was thoroughly representative. Three large tents were required to hold the exhibits, and a smaller one for the ladies' classes of decorative cut flower exhibits. Mr. A. Wallington, Hon. Secretary, and his assistant, Mr. Weeks, laboured hard, as usual, to command success, which they achieved in all respects except the weather.

The most important class for plants was for twelve specimens in or out of bloom. Three competed, the first prize falling to Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park. *Clerodendron fallax* and *Allamanda Hendersoni* were especially good, and there were excellent



Palms, Crotons, and a richly coloured specimen of *Alocasia Thibautiana*. Mr. Russell, gardener to the Rev. S. Saville, Audleys, was second; and Mr. T. Holdaway, gardener to Colonel May, Hawkfield, Basingstoke, third. Specimen foliage plants in six varieties were best shown by Mr. T. Weaver, gardener to W. O. Gilchrist, Esq., Oakley Hall, Basingstoke. Mr. Bowerman won with a capitally grown Croton, Queen Victoria, in the class for a specimen foliage plant, Mr. Weaver being second with *Cycas revoluta*. The last named grower easily secured leading honours in the exotic Fern class, staging six very fine plants, *Adiantum concinnum latum* and *A. cardiochlamys* being particularly good. Mr. G. Southcott, gardener to Captain Oldfield, South Warnboro', was second. Mr. Kneller, gardener to W. S. Portal, Esq., Malshanger Park, Basingstoke, took the premier award in the hardy Fern class with healthy well grown specimens; Mr. B. Tripp, gardener to Mrs. Field, Goldings, Basingstoke, being a good second. *Coleus* are seldom seen in better condition than they were on this occasion. The plants were compact yet freely grown, pyramids ranging from 4 to 7 feet high, the majority well coloured. Mr. Southcott secured the first prize; Mr. Russell following. *Fuchsias* were represented by pyramids from 7 to 8 feet high, not too stiffly trained, but profusely flowered. Messrs. Russell and Mr. F. Holloway, gardener to F. W. C. Reade, Esq., Down Grange, securing the awards in the order of their names. Tuberous *Begonias* were more remarkable for the quality of their flowers than for the quantity. In a brisk competition Mr. Norris, gardener to J. Porter, Esq., Kingsclere, was first. Mr. Kneller had the best Zonal *Pelargoniums* in four varieties, and they were freely flowered. Table plants were shown admirably by Mr. Bowerman and Mr. Kneller, who were first and second.

Unfortunately there was but one entry for the special prize of £5 5s., presented for a group of miscellaneous plants arranged in a semicircle not more than 16 feet long. The solitary group came from Mr. Weaver, who well deserved the premier award given, suitable plants lightly arranged insuring his success.

Cut flowers were largely staged in all the classes set apart for them. Roses were bright and fresh, if small. For twenty-four, distinct, Mr. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Winchester was an easy first, the Rev. C. Eddy, Brawley, being second. Mr. Neville again led in the class for twelve blooms, Mr. Norris being second. A neat bloom of *A. K. Williams* secured Mr. Neville honours for the premier bloom in the Show. Stove and greenhouse flowers were best staged by Messrs. Weaver and Norris, and herbaceous varieties by Mr. Kneller. Mr. R. H. Munday, nurseryman, Basingstoke, had the best *Asters*, and the finest *Dahlias* came from Mr. Russell. The following cut-flower classes were open to ladies only. For a stand or vase of flowers and fruit suitable for table decoration, Miss M. Owen, Basingstoke, was the most successful, Mrs. Osman, Ottershaw Park, following closely. Miss N. Owen, Basingstoke, had the most tastefully dressed pair of vases, flowers only. Mrs. Thorne, Basingstoke, was first for a stand of wild flowers, grasses, and berries, with an arrangement which showed considerable taste, Miss Portsmouth, Down Grange, being second. A special feature was made by water bouquets, Mrs. Wadmore, Basingstoke, winning easily, and Miss Milson being second. The last-named had the best shoulder spray, and Mrs. Wadmore the neatest button-hole bouquet.

Fruit was both abundant and good. For six dishes, Pines excluded, Mr. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, had no difficulty in securing the premier position; good *Muscats* of Alexandria Grapes, Barrington Peaches, Bouverie's green-flesh Melon, and Moor Park Apricot were his best dishes. Mr. Best, gardener to — Chute, Esq., The Old Vyne, was second. Classes were provided for Black Hamburg Grapes and any other black variety. Mr. Holloway, with medium sized, compact, and well finished examples was placed first with the former, Mr. Osman being second, and Mr. Best third. In the other class Mr. Holloway repeated his previous success, this time with beautifully finished examples of *Alicante*, Mr. Osman being second with *Madresfield Court*. The latter staged good *Muscats* of Alexandria in the class for that variety, and was awarded first prize. Melons were staged in considerable numbers, the best green flesh being a small one of *The Countess* from Mr. Norris. Mr. Kneller took second place with *Emerald Gem*. The best scarlet flesh variety was *Blenheim Orange* from Mr. Bowerman, Mr. Tripp being second. Peaches were largely and excellently shown. Well coloured fruit of *Violette Hâtive* won the first prize for Mr. Bowerman, and he was successful with good *Lord Napier* Nectarines in the single dish class, Mr. Best with *Elruge*, highly coloured, taking second honours. Apples were well staged. For three dishes of culinary varieties Mr. Neville won with even fruit, Mr. Kneller being second. Mr. Best gained the premier award in the dessert class for three dishes, staging highly coloured fruit. Mr. Bowerman was easily first for Apricots with very fine examples of *Moor Park*. Mr. J. Wasley, gardener to C. Lethbridge, Esq., Sherfield Manor, had the best Cherries, fine *Morellos*, in strong competition.

Vegetables, as previously indicated, are always well shown at Basingstoke, and this year was no exception. Messrs. Sutton & Sons offered prizes for six varieties, which brought out fine produce. Mr. Lye, gardener to W. H. Kingsmill, Esq., Sydmonton, was the most successful. His best dishes were *Anglo-Spanish Onion*, *Mammoth Cauliflowers*, and *Perfection Tomatoes*, and they were very fine. Mr. Kneller was a close second. For the prizes offered for the same number of varieties by Messrs. Webb & Sons these two exhibitors occupied similar positions with equally good produce. Prizes were offered also for single dishes of numerous kinds of vegetables, which were well contested for.

Messrs. Sutton & Sons, Reading, had an attractive stand of cut flowers, mainly annuals, such as fine strains of *Godetias*, *Jacobæas*, *Sweet Sultans*, *Lupins*, *Dianthus*, and *Phlox Drummondii* in great variety. Seedling *Carnations* were also shown well. This firm also exhibited two dozen plants of *Gloxinias* grown from seed sown in February, which carried numerous handsome flowers of brilliant colours.

### IRIS FIMBRIATA.

ALL the Irises possess special attractions for plant admirers, and though many are more showy than the little *Iris fimbriata* yet this has a graceful habit, and is so floriferous that it can be employed with good



FIG. 28.—IRIS FIMBRIATA.

effect in several ways. Like numerous other members of the family its flowers are, however, somewhat fugacious and are not adapted for cutting. The plant is compact in habit and is consequently well suited for culture in pots, and being somewhat tender it is safer in a greenhouse than outside; in fact comparatively few positions suit it except in the warm southern and western counties, where I have occasionally seen it tried, but not with very encouraging results.

For some years I have grown it entirely for greenhouse decoration, and as I have a good stock by forwarding some and retarding others I manage to keep up a fairly long succession of flowers. These are of such a soft pale bluish mauve relieved by orange markings that they appear very distinct arranged with other plants having more brightly coloured flowers. A moderately light loam, ample root space, and plentiful supplies of water during the growth and flowering, are the principal points in its culture and need special attention. —C. M.



## A BLACK COUNTRY SHOW—BILSTON.

BILSTON is said to be in the heart of the "Black Country," where the earth has been turned inside out in coal mining. Travelling from Birmingham onwards to Wolverhampton, anything more desolate, so far as regards vegetation, could not easily be imagined. A large district is practically treeless, and the only tinge of green visible is in the form of struggling grass and Coltsfoot. Millions of tons of *débris* have been dragged out of the earth, and heaped on the surface in huge irregular mounds. It is a dismal scene. As Bilston is approached improvement is manifest, and on entering the town, which is two or three miles from Wolverhampton, it is evident that trees and flowers are cherished by the inhabitants.

With the object of creating a taste for gardening the Bilston Horticultural Society was formed about eleven years ago, and thanks to able and earnest officials the years succeeding have been years of increasing success. Considering the fact that the surface of the ground is represented by a series of hummocks, "pit mounds," and "spoil heaps" it seems little short of marvellous that such splendid produce could be grown in the form of vegetables, and flowers especially, as was seen in the tents. Even for these level ground could not be found in the field, and it was a question of walking uphill and down between the tables and banks of plants.

The exhibits were most commendable throughout the three sections—gardeners, amateurs, and cottagers; but taking all things into consideration the productions of the latter must be accorded the palm. Vegetables and flowers were surprising by their excellence, equalling the average of the great Show at the Crystal Palace the week previous, while the window plants were better. The character of the Show is admirably condensed in the following extract from the *Midland Herald* :—

"The produce was staged in three ten's, the open tent being 200 feet by 40 feet, the cottagers' 100 by 36, and the amateurs' 100 by 40. In each of the open amateurs' and cottagers' classes the competition was remarkably keen, and while there was a larger display of produce in the two first mentioned classes, a leading feature of the Show was the splendid collection of vegetables to be found in the cottagers' section. This was admitted on all hands to be much superior to anything of the kind ever seen at these shows. In this tent, too, were several splendid groups of plants not intended for competition, which had been lent by Sir Alfred Hickman and Messrs. J. Harper, B. Whitehouse, J. Mothershaw, and Harris. The Potatoes were a grand lot—undoubtedly the best shown in the district this season—and Celery, Shallots, Turnips, Peas, Lettuce, Onions, Leeks, Parsnips, and Beans were alike creditable. The cut flowers were capital, Asters, Marigolds, and Pansies especially so, but fruit was only fair. There were several good garden bouquets, and the window plants were very meritorious, well grown, and clean.

"The tent set apart for the open class was filled with a magnificent collection of stove and greenhouse plants, and in some cases the Judges had considerable difficulty in awarding the prizes owing to the general excellence of the exhibitors' displays. The first prize for best arranged group of plants was awarded to Mr. Dyer, gardener to Mrs. Marigold, Edgbaston; and the second was taken by Mr. Horton, gardener to Mr. W. H. Fowler, Sedgley; Mr. J. E. Knight, Wolverhampton, being third; and an extra prize was given to Mr. S. Dean, gardener to Mr. L. Foster, Sedgley. Several fine groups of plants, arranged in half-moon form, were shown, and in this class the first prize was taken by Mr. Kenrick, Edgbaston, Mr. Dyer being second, and Mr. Fewkes, gardener to Mr. T. Clayton, Castle Bromwich, third. Mr. Dyer and Mr. Fewkes were awarded equal first prizes for their six specimen stove or greenhouse plants, and Mr. Dyer carried off premier honours for three stove or greenhouse plants and for three Ferns. Mr. S. Horton of Sedgley well deserved the first prize for six *Coleus* which he showed, and also for a single specimen stove or greenhouse plant. In the class for six dissimilar Ferns Mr. S. Dean of Woodsetton carried off the first prize. Mr. Fewkes was first for *Fuchsias*, and Mr. C. Barlow, Tettenhall Wood, first for *Lilies*.

"The display of cut flowers was of a most attractive character, the principal features being the *Roses*, *Dahlias*, *Asters*, *Picotees*, *Carnations*, and *Pansies*. The prizetakers for *Roses* were Messrs. Perkins & Sons, Coventry, Messrs. Heath & Son, Cheltenham, and Mr. Townsend, Worcester. The amateurs' section was on the whole creditable. The centre of the tent was occupied by several excellent groups and specimen plants, the exhibitors of the former including Messrs. R. Jones, Highfields; S. Fullwood, Bilston; J. Kirkland, Bilston, and Taylor, West Bromwich. The principal features were *Dracænas*, *Crotons*, *Palms*, *Ferns*, *Gloxinias*, and *Liliums*. The specimen plants were very fine. There were also four half-moon groups, one by Mr. W. Knight containing fine *Dracænas*, *Orchids*, *Caladiums*, *Crotons*, &c., and the others by Messrs. Kirkland, Fullwood, and Jones. Mr. G. Knight of Oxford Street, Bilston, showed, not for competition, a collection of stove and greenhouse plants, including shrubs, Ferns, *Ivies*, *Palms*, *Coleuscs*, *Myrtles*, *Mosses*, and *Lilies*.

"The vegetables here were also excellent, Turnips, Lettuce, and Peas being a strong lot, but the Potatoes were not equal to the cottagers'. Fruit was only moderately good, and cut flowers were not a great feature, though French Marigolds were extra good. Table decorations were fair, and collections of vegetables commendable. The bouquets, baskets, &c., of wild flowers were a highly pleasing feature, and reflected creditably on the children, who had tastefully arranged them, and

deserve every encouragement. The Judges were Messrs. W. Dean (Birmingham), Latham (Botanical Gardens, Birmingham), Coombes (gardener to the Earl of Dudley), E. Cooper (gardener to the Right Hon. J. Chamberlain), W. Spinks (Birmingham), and W. Jones (gardener to J. E. Matthews, Esq., Birmingham)."

The luncheon, which followed, was as good as the Show. It was attended by more than a hundred ladies and gentlemen, and the speeches afforded convincing evidence of the earnestness of the desire that exists to see horticulture flourish. Interesting presentations were made on the occasion to Mr. C. J. Morrell, who has been the valued Hon. Secretary for many years, and now retiring. The President, J. L. Gibbons, Esq., J.P., asked Mr. Morrell's acceptance of a beautiful case of dessert cutlery, and Mr. F. Nokes, Chairman, followed with a handsome marble clock and bronze ornaments from the Committee.

Mr. R. J. Rogers has succeeded Mr. Morrell, and intends trying to do as well as he has done, while Mr. Nokes, it is said, is untiring in his efforts on behalf of the Society and garden or "pit mound" cultivators in the district. All the officials who have worked so well must be congratulated on the results of their labours.

A Chrysanthemum and Fruit Society is formed at Bilston, and the Show is to be held on November 17th and 18th. Mr. Alfred Folkes is the Secretary.

## NEPHRODIUMS.

THIS large group contains many species that are of value from a commercial point of view, and several of them have already so proved their usefulness as to be included in the regular trade lists of florists' Ferns. In point of general utility I am inclined to rank the *Nephrodiums* third, placing *Adiantums* first and *Pteris* in variety second, though possibly the correctness of this classing may be disputed in some localities, it being well known that the demands of all markets are not alike. But be this as it may, the fact remains that the *Nephrodiums* are a useful family, being easily reproduced, mostly of rapid growth, and in general not requiring a high temperature or special cultivation in order to secure a satisfactory result. It is scarcely necessary to state that these Ferns are propagated from spores, this fact being patent in most places where any plants of this class are grown, at least so far as the well-known *N. molle* is concerned, this species appearing in the form of self-sown seedlings in the most unexpected places.

Among the best species of this genus is *N. aristatum* var., a bold-looking Fern with dark green leaves, that are marked down the centre of the pinnules with a band of yellowish green. The fronds of this species are of medium size and of good texture, and the plant is sufficiently hardy to frequently survive after all the others in a table fernery have succumbed to the furnace-heated air. *N. aristatum* var. also stands well when cut, but possibly would not pay for this purpose on account of the limited number of fronds produced by each plant.

Another good one is *N. varium*, also known as *Lastrea opaca*, which is of similar outline to the preceding, though having but one colour in the mature fronds, these being very dark green, and having the stems much covered with brown chaffy scales. The young fronds of this species are also very noticeable in colour, being a peculiar shade of light brown, and sometimes tinted with pink. In habit *N. varium* is compact, and makes a useful plant in a 3-inch pot, though it will not grow much during the winter, and if forcing by extra heat is attempted the result is likely to be an attack of thrips.

*N. Richardsi multifidum* is also a handsome variety, and is of more recent introduction than the preceding. It has long bi-pinnate fronds, finely divided and much crested, the colour of which is light green. This form also comes true from spores, and consequently is easily multiplied, the young plants when in 3-inch pots being of a useful size for table ferneries.

Still another very distinct and easily grown species is *N. Sieboldi*, probably better known as *Lastrea Sieboldi*, a strong growing Fern of bold aspect and nearly hardy. The fronds of this species are pinnate, and composed of from five to nine broad pinnules with slightly serrated edges, the stipes and crown of the plant being covered with brown chaffy scales. *N. Sieboldi* should be grown in a moderately cool house in order to keep it in good condition, for when grown too warm it is liable to become infested with thrips.

*N. molle* is too well known to need description, though a useful species for certain purposes; for instance, it is an excellent Fern to plant among rockwork when filling a conservatory, and will produce a good result with very little care. The crested forms of this species are very pretty, and may be used with good effect at times, though too brittle to become generally useful. The most peculiar of these forms is *N. molle corymbiferum*, the fronds of which are upright, quite stiff, and terminated by a large crest. Another of these forms of *N. molle* is *N. m. grandiceps*, in which the fronds retain the outline of the type, while the tip of each pinnule is nicely crested in much the same way as those of *N. Richardsi multifidum*. *N. molle* Langwelli is a comparatively recent form, having been distributed about six years ago, but is, however, of little value commercially.

*N. glabella* is a finely divided species of dwarf habit, and deserves more recognition, the fronds being nearly triangular in outline and from 8 to 12 inches in height. This is also a cool house species, and will flourish under the same treatment as *N. Sieboldi*—that is, with a temperature of 50°.

The short list here presented contains some of the most useful species



included in this comprehensive genus, but does not by any means exhaust it, as under the present classification what formerly comprised several genera have been combined in the single genus *Nephrodium*, thus giving it about 300 species.—W. H. TAPLIN (in *American Florist*).



### FRUIT FORCING.

**PINES.**—*Potting Rooted Suckers.*—Suckers obtained from the summer-fruiting plants will soon be ready for potting. It is well to divide the plants; the strongest should be shifted into their largest pots as soon as ready, employing 10 or 11-inch pots according to the variety, affording them a position near the glass in a light airy house, keeping them gently growing through the winter. The plants so started will be readily excited into fruit next May or June, and will afford a good successional supply of ripe fruit in late summer or early autumn. In other plants suckers from the summer fruiters not large enough to shift into the fruiting pots, winter best in 7 or 8-inch pots, transferring them to larger as soon as ready in spring, which, with suckers of Smooth-leaved Cayenne that were started last March, will afford a successional supply of Pines through the winter months.

*Re-arranging Pine Plants.*—A re-arrangement of the plants should now be made in order to separate the fruiting from the non-fruiting plants, as many of those that were started from suckers of last summer's fruiting plants will have fruit swelling. Those plants not fruiting will have completed their growth, and should have air very liberally for the next six weeks when the temperature exceeds 80°, maintaining the bottom heat steady at 80°, and all plants well established—that is, well rooted, should have a bottom heat of 80° to 85°, but recently potted suckers, or those not having roots well established in the fresh compost, should have a bottom heat of 90°, steadily maintained to insure speedy rooting.

*Fruiting Plants.*—Those swelling off their fruits should have moderate atmospheric moisture, admitting a little air at the top of the house early in the morning, so as to allow of any superfluous moisture escaping before the sun's rays act powerfully or upon the fruit. Any fruit it is desired to retard should be moved to a rather cool or shady house, admitting abundance of air.

**FIGS.**—*Earliest Fig House.*—In the earliest house the trees will now be ripening their wood, and watering may be discontinued, air being given very liberally. If, however, the second crop is not yet ripened moderate moisture in the soil will be necessary, with a free circulation of warm air to insure high quality in the fruit. When the fruit is off take prompt measures to destroy insects.

*Earliest Forced Trees in Pots.*—These may be placed outdoors when the wood is ripe; but they must not be so treated if there is any doubt about this, keeping them under glass with a free circulation of air. These are matters in which the cultivator will need to exercise his judgment. In either case encourage surface roots by dressings of manure, rough loam, and a sprinkling of steamed bonemeal. See that those placed outdoors do not root from the base of the pots. Cut off all roots that have passed into the plunging material, top-dress, after which give a good watering, and they will need no more water than suffices to keep the foliage in health.

*Trees Unsatisfactory.*—Fig trees planted out in houses not unfrequently grow rampantly, and consequently produce thin crops of fruit. In that case root-pruning should be resorted to, and the roots confined to a narrow border of from 3 to 4 feet in width. A trench taken out at this distance from the stem after the fruit is gathered will check the tendency to a late growth, assist in the ripening of the wood, more particularly if the growths are thinly disposed and the points of the shoots, instead of being tied closely in, are allowed to grow up to the glass. If the drainage be defective it will be necessary to lift the trees in the autumn as soon as the leaves commence falling, and replant in fresh soil. Place 9 to 12 inches of drainage, rough at the bottom, at the top, and on this place 3 inches thickness of old mortar rubbish, freed of old laths and other pieces of wood, smashed and sifted with a half-inch sieve, using that remaining in the sieve, the finer particles being mixed with the soil to the extent of one-sixth. Turfy loam, inclined to be strong rather than light, forms a suitable rooting medium, adding to it a sixth part of old mortar rubbish, a tenth of calcined oyster shells, and a bushel of bonemeal or ground coprolites to every cartload or 30 bushels of loam. In replanting ram the compost, well incorporated, thoroughly about the roots, spreading them out evenly well up to the surface, and with soil between each layer so as not to have the roots altogether. This will insure steady progressive growth, short-jointed fruitful wood, a solidified compost duly stored with nutrition securing, with judicious ventilation and management, solidified growth and large heavy fruit. The border may be 2 feet deep. Should the drainage be good it will only be necessary to detach the roots as advised, confine the trees to the narrow border, and remove some of the old soil from amongst the roots, replacing and top-dressing with the compost above stated.

*Late Houses.*—The value of the fruit of trees in cool houses so as to ripen in late August and early September is considerable. The great point is to keep the growths thin and the roots restricted so as to insure a thoroughly solidified growth, short-jointed well ripened wood. If the wood does not ripen freely treat these as advised for "unsatisfactory trees" when the fruit is gathered, and lift when the foliage gives indications of falling. Keep up a free circulation of air, expose the fruit as much as possible to the sun, but if spider be troublesome syringe on a fine morning after a close picking of the fruit, and afford no more water at the roots than is sufficient to keep the foliage in health. Ventilate freely in the early part of the day, and leave a little air on constantly to allow the moisture to escape and prevent its deposition upon the fruit, which may cause it to spot and decay prematurely.

**VINES.**—*Early Forced Vines in Pots.*—These for starting in November must not be allowed to become dust dry at the roots. They will now be at rest, the wood ripe, the laterals cut close home, and the canes shortened to about 6 feet, more or less, according to the situation of the plump eyes. Whilst the cuts are dry dress them with styptic or patent knotting to prevent trouble from bleeding; they should be kept in a cool airy house.

*Earliest Forced House.*—It is not necessary to wait until all the leaves have fallen before pruning matured Vines for early forcing, but the wood must be brown and hard, and the leaves turning yellow. The pruning will cause the Vines to rest quickly and thoroughly. If in good condition they will afford bunches quite large enough when pruned to a couple of buds from the base, but if the Vines are weak from over-cropping or a long course of forcing, the spur shoots may be left a little longer with a view to large bunches. When this method is adopted take shoots from as near the base as possible when growth commences, which should not be allowed to carry fruit, but be stopped at about the sixth leaf, and the laterals at the first leaf, and subsequently as produced. Such shoots are sure to form good buds; the extra foliage will tend to invigorate and support the fruit on the other shoot, which can be cut away in due time in favour of the other for fruiting the following season. This alternative system of fruiting necessitates keeping the shoots further apart for development and exposure to light and air. If the Vines are grown on the extension system it will only be necessary to cut back to plump buds on well ripened wood, being guided by the space at command, for there must not be overcrowding. It is important that the house be thoroughly cleansed and the Vines also. Any weakly Vines, or those in an unsatisfactory state, may be improved by removing the soil down to the roots, and substituting fresh loam with an admixture of steamed bonemeal to the extent of a thirtieth, and if calcareous matter be wanting add a sixth of old mortar rubbish to heavy soil, and chalk to light soil, or in the latter case clayey marl, dried, pounded and incorporated with the soil is preferable. Lift any roots available for the purpose, laying them out upon the fresh compost, and cover them about 3 inches deep. This is best done over the whole extent of border occupied by the roots before the leaves fall. It is a mistake to allow Vines when at rest to become very dry at the roots. Comparative dryness is desirable, yet great injury is caused by allowing the soil to be dust dry. The outside borders should have a covering to protect the roots from the heavy autumn rains, which reduce the temperature considerably. Glass lights are preferable for throwing off heavy rains, while allowing the sun's heat to penetrate the soil. Many, however, are obliged to rest content with a covering of leaves and litter after cold weather sets in, yet there is nothing like inside borders for early forcing, and reason and practice justify the employment of protective material on outside borders wherever available for the exclusion of moisture in undue proportion to the requirements of the Vines and preserving the soil warmth.

*Young Vines.*—Those that have made strong growth and are late in ripening should be assisted with fire heat, maintaining a minimum of 65°, and a maximum of 75° from fire heat, continuing it until the wood is ripe, accompanied with free top and front ventilation. Discourage any further growth by keeping the laterals well in hand, removing them as they appear, but be careful not to cause the principal buds to be forced into growth.

*Late Grapes.*—These are now colouring rapidly, but are a long way from being properly finished, which in almost all cases is due to the lateness of starting. Late Grapes require plenty of time, and all the sun it is possible to insure to them. Keep the laterals well thinned, and thereby admit as much light as possible to insure the finishing of the crop, not by large reductions of foliage at a time, but by frequent pinchings. Maintain a night temperature of 70° to 75°, falling 5° to 10° during the night, increasing to 80° to 85° by day, up to 90° in the afternoon, accompanied with a free circulation of air in the early part of the day, and a moderate amount day and night—always enough to insure a circulation. Make the most of the next month or six weeks in case of Grapes that are late in ripening, for when the days are short ventilation cannot be freely admitted, and unless Grapes have a moderate amount of air moisture when ripening they do not swell freely, but are liable to shrivel, particularly Muscats, and it is not the moisture that causes Grapes to spot and crack, but the confined atmosphere—moisture condensed preventing evaporation from the surface of the fruit. Those Grapes well advanced in ripening may have the atmospheric moisture reduced; those only colouring should have a moderate amount of moisture to assist their swelling, not neglecting to apply water to the roots, but it will hardly be further needed by outside borders, whilst it must be given to inside borders as required.



## THE KITCHEN GARDEN.

**TOMATOES.**—Plants against sunny walls have grown more strongly than desirable this season, and in some places are already diseased, while those in the open are in a still worse plight. Rank growth can be checked considerably by reducing the size of the principal leaves or those on the main stems, but it is a most unwise proceeding to completely denude the lower half of the latter. This premature removal of the leaves greatly checks the swelling of the fruit, and the latter ripen quite as surely, being also less exposed to disease germs, when a moderate amount of foliage is left on the stems. All side shoots formed at this late date ought to be kept cut out, and it will be no advantage to allow the leading growths to extend any farther. Heavy crops, and they are no rarity, would pay well for being protected from the rains, pit and frame lights not otherwise in use answering well for the purpose. Keeping the foliage dry is the best preventive of Potato blight, those plants most exposed to the rains being already affected by this dreaded fungus. Some of the more advanced fruit or any just changing colour might be cut and forwarded in heat or a kitchen without much detriment to the quality, and if there is a great likelihood of the plants being overrun by the disease, nothing but greatly improved weather preventing this, it is advisable to cut the bulk of the more forward fruit and either attempt to ripen it in heat or use it in pickles and pies. Very good preserve can also be made of young green fruit, but as Plums are plentiful there will be less need to thus utilise the Tomatoes.

**WINTER TOMATOES.**—In order to be certain of a heavy crop of fruit to ripen in succession during the winter the sowing ought in most cases to have been made last month, this being particularly necessary where the plants are put out all over a border and trained uprightly. The crops set most surely when the plants are trained thinly over the roofs of well heated forcing houses, and it is quite immaterial whether they are confined to single stems or fewer plants are grown, and these be allowed to spread. This being so there is nothing to prevent the utilisation of strong pot plants that have already given good crops of fruit. These, being either planted out in narrow borders or given a rich top-dressing and made to root out, more soil surrounding or mounded over them, will quickly push out numerous side shoots, the best placed of which should be laid in and the rest cut out. Treated in this manner, well looked after at the root, and not kept in a close atmosphere, they do not grow too rankly, but may be depended upon to set and swell capital crops throughout the autumn, winter, and following spring months. If young plants are grown these also may with advantage have their roots confined for some time in 10-inch or rather larger pots, allowing them to root out subsequently into rather rich soil, maintaining their vigour without impairing their productiveness. The ribbed varieties, notably Large Red and Orangefield, are the heaviest croppers, the newer Conference also cropping admirably, and it is one of the best for winter culture.

**LATE PLANTED BROCCOLI.**—It is quite useless to place out tall plants or those that have stood for several weeks longer than they ought to do in the seed beds in the ordinary manner. Seeing, however, that comparatively young plants frequently survive severe frosts better than much stronger older Broccoli, it is advisable to continue planting them according as Peas, Beans and Potatoes are cleared off the ground. They should be dug in, that is to say, be planted as the ground is dug. Prepare a sloping shallow trench for the first row, a little short manure placed in the bottom not being wasted, and cover the roots and stems up to the leaves with fine soil well pressed down. Similar sloping trenches should be formed while the ground is being dug, till all the space is covered. At this late date the plants may be put out 18 inches apart in rows 2 feet asunder. The tops will soon attain an upright position, and in all probability a late supply of serviceable sized hearts be eventually obtained. This plan answers best where the soil can readily be broken down, lumpy ground not suiting newly put out plants of any kind.

**CELERY.**—It is surprising how little impression heavy rains make upon Celery in trenches, especially after the plants are strongly rooted. No greater mistake can be made than to mould up Celery without first examining the trenches. These being rather deeply probed may disclose the fact that the manure and soil thickly occupied by hungry roots is almost dust dry, and that, too, after a spell of wet weather. Earthed in this state they will most probably remain dry all the season, premature seeding and other evils being the consequence. It is advisable, therefore, in most cases to give the trenches a good soaking of water, or better still, liquid manure, abundance of soot and a sprinkling of salt being the best substitute for the latter. A free use of soot and the salt in moderation are good preventives of slug attacks. The greater portion of the rows ought now to be cleared of weeds, runners, and small lower leaves, and after the before-advised watering has been given have a little soil chopped down into the trenches, this answering the double purpose of benefiting the roots and keeping the tops from opening out too much. The more forward, or any required for use in about a month or six weeks' time, this being quite as soon as it is much in demand, ought now to be finally moulded up. The stalks should be kept well up together, either with the hand or temporary ties, so as to effectually exclude the soil from the hearts. Great care ought to be taken not to pack the soil against the stalks too closely, especially near the top, as this may cause bulging and splitting, while the successional rows should not be moulded up much in advance of the growth of the hearts, or this also may lead to bulging and splitting at the base. The soil surrounding Celery cannot be too light and finely divided.

**AUTUMN SOWN ONIONS.**—Tripolis obtained by sowing seed last

autumn are likely to keep badly this season. They were much damaged by mildew, and to make matters worse rainy weather has caused a second root growth. All that can be done is to thoroughly harvest them in dry vineries, pits, or frames, and then to bunch or "rope" them up and keep them in a cool dry shed in preference to storing them in heaps. Underground Onions, Garlic, and Shallots ought also to be harvested as much as possible under cover, and be stored thinly in a cool dry place. No time should be lost in sowing seed of Onions to stand out through the winter. Tripolis of sorts are usually preferred, but they are no harder than the white Spanish types, and there is no good reason why some of the latter should not be sown with them. The white Tripolis are the mildest in flavour, and form a very good vegetable. Room ought to be found for a row or rows of the quick-bulbing Queen, and the white Naples is fit for use very early in the season. Single rows of any or all that may be selected between late-planted Strawberries, or a good open piece of ground or moderately warm border may be sown with them. Thinly sowing in shallow drills is preferable to sowing broadcast, unless in the latter case the plan of covering the seed with sifted soil is adopted.

## PLANT HOUSES.

**Poinsettias.**—Poinsettias are not growing satisfactorily under cold frame treatment. It will be necessary to encourage them by artificial heat. They should be kept growing steadily, air being admitted freely whenever the weather is warm. When fire heat is used leave a little air on the frame both day and night. Water with care those plants that are compelled to be grown in cold frames, or the roots will perish, and result in the lower leaves turning yellow and eventually falling. Euphorbias, Plumbagos, and other plants of a like nature will do better if they can have gentle heat while the present sunless weather continues.

**Begonias.**—Though practically at a standstill in cold frames no harm will result to plants that are well advanced and already large enough for the purpose for which they are required. Care is needed in not giving too much water or allowing the atmosphere about the plants to become too moist. The foliage is liable to damp, especially large-foliaged forms of the *B. manicata* type. Water in the early part of the day, and maintain a moderately dry atmosphere about the plants. Those in a backward state of growth should be encouraged by gentle heat. Do not grow them too warm or too close. If they are to flower well firm sturdy growth is necessary. Place into 4-inch pots all young plants of *B. nitida alba* and *B. rosea*, also *B. Ingrami* and others that are well rooted. Cuttings of the last may still be rooted; they will be useful in spring if wintered in small pots. The forms of *B. nitida* rooted now will also be useful in the stove in spring. Place into 4-inch pots seedlings of *B. semperflorens* varieties, and transfer smaller plants from the seed pans into small pots. *B. semperflorens carminea* when rooted should be grown in a light position, where it can enjoy a little warmth. When ready for transference into 4-inch pots remove the points of the plants to induce them to throw up from the base. Where stage room cannot be devoted to the stock of Begonias needed for cutting they can be grown well in small baskets suspended from the roof of stoves and intermediate houses. Useful baskets can be formed by placing a plant of *B. semperflorens carminea* in the centre and *B. Ingrami* round the sides of it. They soon become a mass of growth, and then flower profusely. Few flowering plants are more useful than these for furnishing vases for home decoration. Unfortunately they do not travel well, even when the utmost care is taken to pack them.

**Lilium candidum.**—Imported bulbs can now be obtained, and should be potted for early flowering without delay. Large bulbs should be placed singly in 7-inch pots, in a mixture of good loam two parts, the other part being composed of leaf mould and sand, adding one-seventh of decayed manure. Cover the bulbs about an inch below the surface, and stand them outside if a cold frame cannot be devoted to them. For early flowering it is better to place the pots in a cold frame, and cover the surface with cocoa-nut fibre refuse to prevent having to water them too frequently. After flowering bulbs can be lifted from the open borders and potted in the same way. The flowering stem should be cut down directly the plants have flowered, the sooner they are lifted and repotted afterwards the better.

**Lilium Harrisii.**—Imported bulbs can now be had, and as they flower before the old *L. longiflorum* they are worth growing in quantity. The plants are highly appreciated either for grouping or for cutting the flowers. Bulbs potted at once may be had in flower by Easter. Liliums are much subject to attacks of aphides, and it is almost impossible to grow them without. Keeping the plants clean after they once start into growth is the greatest difficulty the grower has to contend against. Large bulbs should be placed into 7-inch pots, those of a smaller size into 5 and 6-inch. Use the compost advised for *L. candidum*, and give the bulbs the same treatment.

**Roman Hyacinths.**—A good number of these should be potted for early flowering. Place five bulbs into each 5-inch pot in a mixture of loam, leaf mould, and sand, with one-seventh of manure added. Be careful that the soil is in an intermediate state for moisture, so that no water is needed before the pots are placed outside and covered with ashes. Successional plants should be potted at intervals of three weeks or a month until the end of October.

**Freesias.**—Pot the main stock of home-grown bulbs thickly together in 3 and 4-inch pots. The bulbs increase rapidly every year, and the small ones should be placed together in pans, they soon make flowering bulbs. After these bulbs are potted place them in a cold frame, and



cover the surface with cocoa-nut fibre refuse until they begin to grow. When once they have fairly started into growth place them on a shelf close to the glass, where they will enjoy abundance of air. If hurried in their early stages they seldom do well. *Freesias* are most useful for cutting, and may be potted in batches at intervals of a month according to the demand.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### AT THE MOORS.

As the Heather this year is in excellent condition I ventured to take some of my hives to it on the 11th, but there, as at home, the weather has been for more than a month very unpropitious. They have had only one dry day since the middle of July, and that was on August 10th, and was one of three only since June that queens could be fertilised. The result is that many of my hives have eggs only instead of what is desirable—the hives full of brood in all stages—so that even with fine weather, and the superior bloom that is on the Heather and other flowers, the yield of honey will not be so great as it might have been.

Although the rainfall has not been excessive, it has been so constant, with its attendant strong winds, that the bees cannot venture out. Had the air been calm, the yield of Clover honey would have been very great, and unless it calms the Heather will come and go as it did without the bees securing any good from it; but with ten days calm fine weather, and it is much needed, the bees would do much good.

Notwithstanding the long unsettled weather, many places are experiencing a scarcity of water. The pastures are, however, everywhere much improved. While writing, the sky has a more promising appearance, and it is to be hoped we shall have finer weather than we have had since February. I am anxious it should improve, to be able to put to the test several things, particularly the

#### PUNIC BEES.

They are showing great anxiety to get to work, and contrary to report, making strong attempts to enter other hives; it may be an exception as it is an exceptional year. At home there were several days on which the Carniolians appeared to work, and carry much from the Limes and aphides secretion, while the Syrian and Punic races remained idle. But I could not determine whether this seeming illeness was a defect or a property. It sometimes happens that bees appear to be working assiduously and with spirit, when they are but easing themselves and are making no weight. Every hive is weighed, and this is the test by which I shall decide, at the end of the honey gathering, which are the best honey gatherers. One variety is much more easily managed than many.

#### USES OF EXCLUDER ZINC.

Although I never experienced any advantage with perforated zinc in supering, it is useful to me in other respects. Mr. William Hogg, Castle Douglas, uses it as mice excluders as some of your readers know, as well as my own plan of driving the bees downwards into an empty hive through it, leaving the queen on its upper surface. Then when I wish to preserve a few young queens for some days, if the queen cells have not been raised in tumblers, I cut them out with a piece of comb adhering, and fit them into them. I then place the tumblers upon the top of the hive with squares of zinc beneath the tumblers and cover all; the bees ascend, and the queens creep out, but cannot get beyond the tumbler each is confined in. The bees feed and defend them till wanted, and no swarming takes place.

Another use I find for it is to prevent the issue or loss of a swarm when not at hand, or unable to attend to it or them. One

day lately seven swarms were issuing at the same time. I immediately closed the entrances of all but one, and lowered the ventilator. The bees of their respective hives returned and clustered beneath the zinc floor, and in a little time, when the doorway was opened the bees returned to the entrance. This is a great advantage, for when stranger bees mix, or several queens, many are killed. When excluder zinc is used for closing the doorway the bees may leave, but the queens, if large, cannot; and when there is but one queen fighting does not take place so readily amongst bees of different swarms.

There is an American device introduced into this country called the swarm, or self-hivers. I do not approve of it. Drones are prevented leaving the hive, and are thereby rendered useless. Moreover, it is never certain whether the queen is an old or a young one; if the latter, she may be prevented mating by the continued use of the hiver, while an old queen forced out of the hive, as it were, might take refuge in the hiver; but a young one is too jealous to allow her rival to remain at peace without a battle royal, or to leave with her due share of her subjects. The way queens pipe I described years ago, but not why. It is natural for young queens to pipe for the purpose of knowing whether any rival is in the hive, and the piping is performed often when there is but one queen.

#### VARIETY IN DRONES.

For many years past there has been much fruitless discussion on the variety of colour in drones of certain variety of bees, but as in many things concerning bees those who took part in them lacked the knowledge of what they talked about, their arguments being on a false basis. I have long preserved the purity of two differently imported strains of Carniolians. Neither of these strains show the slightest yellow marking beyond the rudimentary dark orange tint upon the hairs on the first segment of the abdomen. This instead of being a fault is, I consider, the distinguishing mark of the pure race. The other does not show the slightest yellow in the skin or hair, and is less mild tempered than the first named. Its drones are of a light fawn colour on the under side of the thorax, a little darker on the upper side, and are generally of a more uniform colour (although some specimens differ a little) than the drones of the other variety present.

Taking the progeny of a dozen queens, there is a distinct difference in every one of them. Some of them have the appearance of yellow Ligurian and Cyprian drones, some have a sombre brown colour of various shades, while others are in part and in whole as black as ebony. This variation of colour is not confined to one race but is common to all. Even the latest imported Punics show it. The Egyptian race was of the most uniform colour of any I ever saw.

It would be interesting to know what is the cause of so much variation of colour in drones bred from a preserved pure race. I know "A Hallamshire Bee-keeper" has a theory, but without mentioning it, I may say that I have witnessed a queen depositing eggs for drones, and when they crept out of the cell they possessed the variations as mentioned above.

I have been prompted to write the foregoing through a query from a correspondent as to the markings of Carniolians crossed with the native brown or black bee. He elicited an answer to a similar query through a contemporary to the effect that, owing to the similarity of the two varieties, it was difficult to distinguish the pure from the crossed Carniolian. The answer is absurd, and I should not be surprised to learn that the answerer never saw a pure black bee, as, before he kept bees, the country was overrun with the Ligurian bee. As those who are able to throw light on the above mysteries are few, if this should meet the eye of Dr. G. Walker, may I be permitted to ask that gentleman to give his opinion for the gratification of many besides—A LANARKSHIRE BEE-KEEPER?



## TRADE CATALOGUES RECEIVED.

Messrs. W. Clibran & Son, 10 and 12, Market Street, Manchester.—*Catalogue of Bulbs.*

Messrs. E. H. Krelage & Son, 17, 19, 21, 23, 25, and 27, Kleinen Houtweg, Haarlem, Holland.—*Catalogue of Bulbs.*

Fisher, Son, & Sibray, Handsworth Nurseries, near Sheffield.—*Catalogue of Bulbs and Roots.*

Dicksons, Chester.—*Catalogue of Bulbs and Flower Roots.*

Messrs. J. Laing & Sons, Forest Hill, London, S.E.—*Catalogue of Bulbs.*



\* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Everlastings** (S. E.).—The question is doubtful, and the flowers may or may not be admitted by the judges.

**Apricots Cracking** (Lankhills).—The cracking of the fruit is caused by a combination—wet weather and the attacks of a fungus. All decaying fruits should be burned.

**Dressing for Apple Scale** (X. Y. Z.).—Some American terms differ from English. We suspect all that is meant by the words referred to is carbonate of soda in the form of lumps, and you may use ordinary washing soda for the mixture.

**Insects on Begonias** (J. W. R.).—There are a few of the insects referred to on page 147 on the Begonia leaves you have sent, also some white thrips. We should burn all the worst of the leaves, and apply a mixture of softsoap and sulphur to the others with a sponge.

**Small Grapes** (F. C.).—The numerous small Grapes on the bunch you have sent are the result of imperfect fertilisation. They contain no seeds the same as are found in the large berries. The house was probably too cold and damp during the flowering period for the ripening and dispersion of pollen. If by a "cold" house you mean that there is no provision for heating it, such misfortunes cannot always be averted.

**French and German Asters** (C. R. W.).—For purposes of exhibition all the Asters with flat florets, whether they reflex or incurve, may be regarded as French varieties, and those with tubular florets as German Asters. The blooms of these resemble round balls with an outer row of guard petals, and are as dissimilar from the others as an Anemone-flowered Chrysanthemum is from a reflexed or incurved bloom.

**Market Gardening** (Mr. L.).—Persons who understand their business both in cropping and selling the produce derive a fair return for their investments. If they did not do so they could not pay so much higher rents than are obtainable for land under agricultural tillage. Rich deep soil and proximity to a railway station are the chief points to be considered in choosing a site. Much practical training is needed for nursery gardening.

**Sewage** (R. A. C.).—Without any doubt the best method of dealing with the sewage will be to use it in the kitchen garden, conveying it there by the best methods that can be devised on the spot. Almost every case of this kind differs, and measures must be adopted the most applicable to each. Sulphate of iron is an excellent deodoriser, a preparation of 3 or 4 per cent. or less to the bulk of sewage destroying offensive smells and not impairing the manurial value of the contents of tanks.

**Pears Cracking** (G. W.).—The cracking is due to a fungus, *Fusicladium pyrinum*, the typical form of which is found on Apples—namely, *Cladosporium dentriticum*, but it is aggravated by a wet season. Nothing will now effect the restoration of fruit, but the spores may be prevented spreading by spraying the fruit and tree with ammoniacal carbonate of copper solution. Particulars for its preparation and application in the case of trees affected with the disease are given in the *Journal of Horticulture* of June 25th, 1891, pages 504 and 505.

**Drain Choked by the Roots of Trees** (C. P.).—The only effectual remedy would be to take out the present 4-inch ordinary drain tiles and put down others with close joints. Four-inch sanitary glazed

pipes with the joints properly made in cement would endure indefinitely. Gas lime placed on the pipes is obnoxious to roots only for a time, and when the lime passes into the gypsum state it aids rather than hinders the roots entering the pipes. The sanitary pipes would, of course, not drain the plantation. If drains are wanted for that purpose rubble drains might be made, but open drains are much the best for plantations.

**Gladioli Unsatisfactory** (A Many-years Subscriber).—The plants going off suddenly is a most perplexing disease, and unfortunately rather common. It is more prevalent in named than in seedling varieties, but there is considerable difference in constitutional vigour of the same variety as affected by soil preparation. The soil in your case has probably been too rich, and the liquid manure too powerful. We should keep the corms for stock, as varieties become acclimatised, and often do well after a year or two spent in recuperation. The corms splitting up had the number of breaks in embryo, otherwise they would not have appeared in the resultant growths. If the corms are diseased burn them.

**Ammoniacal Gas Liquor for Destroying Weeds on Gravel Walks** (G. J. B.).—Gas liquor varies considerably in strength. If there are few weeds and the ground be dry it may be diluted with two parts water; if many weeds but not strong add an equal proportion of water; if the weeds are numerous and strong use the gas water neat. It will certainly kill the present weeds, cause an intolerable smell, and by enriching the gravel and soil make future weeds grow faster and stronger than they have ever done before. The advertised weed killers are infinitely better and inexpensive, while the gas liquor properly diluted can be employed for stimulating the growth of useful crops. Try some differing in strength on grass.

**Tomatoes Diseased** (R. W.).—The fruits are attacked by the fungus *Cladosporium lycopersici*, or Tomato scab. All the worst affected should be removed and burnt, but the spores will fly about, and alighting on the plants or fruit will germinate and reproduce the fungus. The plants, therefore, and house should be sprayed with the following mixture. Dissolve 1½ oz. precipitated carbonate of copper in a pint of liquid ammonia (26°), of this one fluid ounce to a gallon of soft water. Spray the plants thoroughly in every part, repeat in twelve to fifteen days, then in twenty-one days, but it is useless to attempt anything beyond the spread of the disease at this advanced period of the season. The fruits already infested, like the examples sent, are beyond restoration.

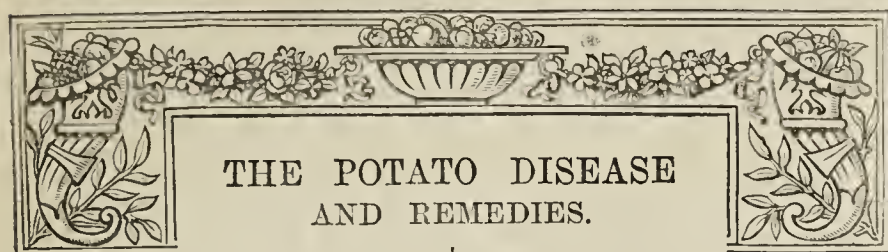
**Roses for Forcing** (North Cotswold).—In selecting Roses for forcing under glass much depends upon the time you wish to commence forcing operations. You will find Niphotos, The Bride, Madame Lambard, Rubens, Safrano, and Isabella Sprunt good and free-flowering varieties. The last two produce charming buds, not fine blooms, but they are useful on account of their freedom and early flowering nature. No others force so well early in the season. If you require one for the roof William Allen Richardson flowers freely and bears forcing well; the flowers individually are small, but they last a long time in a cut state, and are highly appreciated on account of their colour. It would be difficult to name a red Azalea with all the good properties of Deutsche Perle. You might do worse than grow Duc de Nassau, semi-double, dark rosy carmine. Bernhard Andreas is brighter in colour, but does not grow so freely as the one named above.

**Plum Trees Dying** (J. B.).—Plum trees are not attacked by canker as it prevails in Apple and Pear trees; but an analogous disease known as gum infests Plum trees and causes the destruction of many, especially in cold localities and where the soil is deficient in calcareous matter. It is caused by a fungus, *Coryneum Beijerinckii*, and is largely on the increase, because trees are propagated from infested stock. The roots of infested trees are generally healthy, but the gum disease prevents the ascent of the sap, causes early and free bearing, and a sudden collapse of the trees often when laden with fruit. Unsuitable stocks are also a cause of Plum trees dying after a few years' growth, but yours collapse from one to five years after planting. Young Plum trees often fail through attacks of borers, but this case seems to be due to gum as the trees "die off in all stages always in summer," simply because the fungus has destroyed the tissues, and the sap cannot ascend.

**Training Cordon Gooseberry Trees** (South Devon).—In raising the trees from cuttings it is desirable to shorten them so as to insure a strong growth from the upper bud, therefore remove all the buds except the uppermost two or three, the cutting being shortened to about 10 inches, and inserted 3 or 4 inches in the soil. When the buds break select the strongest growth for training up to form the cordon, and the other shoots may be pinched off at the third leaf so as to form spurs; but it is desirable to have the plants with short clean stems to facilitate cultural operations. In subsequent years the leading shoot should be cut back to about 13 inches, to insure its pushing side growths throughout its length, selecting the strongest in spring for continuing the main branch, pinching the others to form spurs at the third leaf and to one subsequently, cutting them back in winter to about an inch of their base. In pinching, the small basal leaves must not be counted. Well managed cordon Gooseberries bear abundantly.

**Young Canes on Permanent Vines** (F. J.).—The two shoots thrown out from the main stem 12 to 14 inches from the ground, and allowed to grow at will, can only assist the Vines by the manufacture of roots, and thus aid in the storing of nutrition, and being cut away or shortened considerably at the winter pruning the other parts will





## THE POTATO DISEASE AND REMEDIES.

FROM various parts of the country we hear that Potatoes are smitten with the destructive murrain, and it is feared that many crops of tubers are practically destroyed. The prolonged wet is the initial cause of the outbreak, and it would probably have occurred sooner if the temperature had been higher. The month just closed was the coldest August that has been experienced for twenty years; and close observation in the past has shown that the destruction of the Potato crops was the most rapid and complete if a high temperature prevailed when the soil and the air were continuously wet, approaching saturation. It has been noticed in the great Potato growing districts, when the disease was so virulent many years ago, and crops left in the ground as not worth digging, that some of the tubers grew in the autumn, and that the growths from these remained free from the fungoid visitant, though water was standing between the rows. This immunity was presumably due to the low temperature that prevailed at the time, and it is certainly a fact that rows of young Potato growths springing from the ridges in October have remained without a speck of disease on them till they were killed by frost, while within the ground were thousands of decaying tubers—a veritable mass of corruption. It has also been observed that when the plants have been first attacked in summer that the progress of the disease was slow when the temperature fell, and quick when it increased. This probably gave rise to the supposition by some persons that it was caused by electricity, as it spread, like the scourge it is, when thunder prevailed, the weather close and warm, and the ground and plants were reeking with moisture. It may reasonably be supposed therefore that the growth of the fungus has been to some extent held in check this year by the low temperature that prevailed during the wet month of August. However, the murrain is prevalent now, and if wet and warmth prevail will spread with great rapidity. Probably nothing can save many crops but a term of distinctly dry weather which is urgently needed.

Some varieties of Potatoes are less liable to fall victims than others to the attacking foe, because of their inherent vigour, and the firmness of the stems and leaves. Many raisers of Potatoes have done incalculable service in the production and distribution of varieties far more disease-resisting in their nature than the "good old sorts" of a former time; also cultivators have become more alive than formerly to the necessity for careful seed and land preparation, as well as to the applicability of manures appropriate to the crop and the soil, while the advantage of wider planting has been to a large extent realised. The establishment of fungoid growths in plants is to an appreciable degree a question of epidermal resistance. The spores no doubt fall on stout and thin leaves alike, but the young and tender stems and leaves of Vines, Roses, Apples, and Potatoes are the first to be infested with parasitical growths.

That the texture of the growth of Potatoes is influenced by the soil is apparent. Those grown in land that is much too destitute of mineral matter, as in fens and drained bogs, produce leaves much softer and more vulnerable to the enemy than do the plants which are better fortified with mineral constituents; and therefore we first hear of the disease outbreak where the soil is little more

than a mass of black, wet humus. Also the more the plants are crowded, and air consequently excluded from the leaves, the weaker these must be and the sooner taken possession of by the devastating "host." It would be well if all growers of Potatoes would, as some of them do, think of these things, and thus do all that is in their power to produce full, clean crops, or in other words make the best of the good varieties that are provided to resist the disease.

During the present season experiments are being made on farms and in gardens with different supposed antidotes to mildew on Potatoes and other crops. Preparations of sulphate of copper and quicklime, *bouillie bordelaise*, also of sulphate of iron and quicklime, are applied in solution. In some carefully conducted experiments by a scientific and practical farmer we are informed that the latter, though keeping the Potato disease at bay for a time, eventually became ineffective; but up to the present time the former dressing has proved efficacious. Preparations of sulphate of copper and quicklime are also prepared in the form of fine powder, and applied with a puff or bellows. We have only had an opportunity of inspecting some experiments that have been carried out with one of these anti-blights—Messrs. Tait and Buchanan's, as supplied by Mr. Peter Barr, and the results up to the present time are highly satisfactory and encouraging.

A few days ago a letter came from an old friend of the Journal and veteran Potato raiser, Mr. Robert Fenn, in which he said, "The disease is smiting me hip and thigh, but with more powder I shall conquer. Come and see; it will be worth your while." The invitation was accepted and Mr. Fenn's work inspected. Exactly opposite the entrance to one of his fields were three rows of Potatoes in full growth, and only in about one plant could evidence of disease be seen; but stretching along each side of these three rows all the tops were blackened. Digging up several roots the tubers were found sound in the three rows mentioned, diseased in the others. The variety was the same, Eliza Fenn, and the cultivation throughout identical, except that the three green rows had been several times dressed with the powder, while the others had not. The contrast was most striking, and the benefits of the powder conclusive. He can secure a good sound crop of Potatoes at any time from the dressed rows, but seems to enjoy the fight with the enemy, and disposed to allow the combat to continue till the mastery is completely proved one way or the other.

Passing alongside of a long stretch of decaying leaves and stems another green oasis was arrived at—eight rows of Fiftyfold which had been dressed, and the plants generally clean and healthy; only a few specks of the fungus were on them, but the undressed rows were blackened. Digging amongst the dressed rows good crops of sound tubers were turned out, and one diseased tuber from a plant that had a few blackened leaves; but from the undressed rows in some instances half the tubers were tainted, and several quite rotten. These trials were in the field. A blacksmith's garden was visited where the soil is black and deep. The powder had been applied to a plot of Sutton's Satisfaction and Windsor Castle. The leaves were fresh, and every root lifted gave a splendid crop of clean beautifully shaped tubers.

Mr. Fenn's garden containing new and favourite older varieties was next examined. The soil here is richer than in the field, and the Potatoes had grown luxuriantly. "There!" exclaimed the veteran, "you can find nothing like this in the neighbourhood; and if the sight is not worth coming from London to see, I don't know what is. Look at my Woodstock Kidney there; one of the best quality Potatoes, but worst 'diseasers' known; but where is the disease now?" There was absolutely not a speck, but the stems were creeping along the ground and the leaves of the richest healthiest green. Rector of Woodstock, which is notorious for taking the disease, was also free. Fenn's New Bountiful yielded an enormous crop, and every tuber sound. Precisely the same remarks apply to Dora, a new pebble-shaped red variety, and to



Damson, also to Cottage Farm, every tuber of which was white and clean. The white tubers of Sir Charles Douglas (a heavy crop) were quite free from the suspicion of a taint. Mr. Fenn says this Potato will keep sound two years, and is the pollen parent employed in some of Messrs. Sutton's "Maglia crosses," which are being looked forward to with much interest. Sir Charles was raised by applying pollen of the American Snowflake, which had been sought for nine years, to one of his seedlings. International was also free. Mr. Fenn says when he raised this variety he sent it with others to a friend to try, with an injunction not to part with it, as the quality was not good enough; but it was "parted with," and Mr. McKinley obtained a certificate for it at a provincial show, and it eventually became a favourite with many exhibitors and cottagers. That is in brief the history of the International.

From one part of Mr. Fenn's garden some rows of Early Border were dug in July, and Ringleader planted on their sites. The plants are now a foot high, and their tender growths free from any trace of the disease. They had been several times powdered, but two self-planted roots of other varieties that came up close to them and not dressed were seriously stricken, as were all the rows of whatever variety that had not been dressed in the enclosure.

This is a simple narrative of facts as they were found last Monday, and not one of the four inspectors can say the record is inaccurate. Mr. Fenn is not only confident that the powder has saved the crops to which it was applied, but is firm in the belief that it has also acted as a fertiliser in his soil; as evidence of this he points to the early variety Ringleader not withering so soon as usual where the powder was used.

In a little unheated lean-to house he has a Vine and Tomatoes. For ten years the Vine has been worthless, eaten up with mildew; this year not a speck can be found on leaves or fruit, nor on the Tomatoes. The powder has had the same good effect on Roses, outdoor Vines, Apple trees, and indeed to whatever it was applied. Use it, he says, in good time and perseveringly, and it will keep mildew off everything, and insects too; but he glories chiefly in having conquered his old enemy on his precious Potatoes.

### FAVOURITE FLOWER BEDS.

I do not think the idea of "D. W. C." at all a bad one that readers should note in the Journal beds which have special features about them for the guidance of others. The old fashioned beds of Pelargoniums with the usual Lobelia edgings will no doubt give place to other designs of a more mixed kind in private gardens. Where the same people see the same style of arrangement, it may be many times in a day, the eye wearies of the constant repetition of colour and form. Beside in seasons like the present "Geraniums" are the reverse of cheering, giving little else but dead leaves and fading flowers.

Beds of mixed plants, whether of the flowering or foliage type, in separate order or in combination are destined to play an important part in the summer arrangements of flower beds. I consider that all beds which are situated on grass ought to have raised edges, no matter whether they be wholly of one kind, or each one raised with separate plants. There is no comparison between flower beds which have the edges raised about 4 inches above the grass and those which have not. If anyone doubts this let him try the effect either by planting one or two, or by observing those which are so raised. If the edging of the beds is to be confined to one colour let it be *Herniaria glabra*. It is surprising what a contrast there is between this plant and the grass, even though both are green. Besides the *Herniaria* affords so many opportunities of contrasting the plants in the beds with the surroundings.

But I am digressing from the heading of the article. A favourite bed here is one which has for its groundwork a mass of Harrison's Musk; the whiffs obtainable from this, first on one side of the bed and then on the other, according to the way in which the wind is blowing, are very pleasing. The bed is about 12 feet long, oval in form, and 6 feet wide; the edge is raised and planted with *Herniaria glabra*. Next to this is a thickly planted row of *Festuca glauca*, which contrasts delightfully with the green edging and the yellow and green of the Musk. Four Castor Oil

Plants, *Ricinus cambodgensis*, a dwarf-growing variety with dark green leaves, are planted at intervals of 3 feet apart from the centre, and dotted over the bed at spaces of 1 to 2 feet are plants of *Eulalia japonica*, *Zea gracillima*, and *Heliotrope Swanley Giant*, the dark purple of the latter contrasting well with the yellow undergrowth and silver and green of the *Eulalia* and Maize. For originality of design and perfume this bed is generally admired.

Another mixture which deserves notice is in an oblong bed 15 feet long by 5 feet wide. In the centre line are Fuchsias *Charming* and *Elegans*, both purple in colour, of excellent habit, and free flowering. Space is allowed between them to avoid crowding. The surface of the bed is carpeted with blue *Marguerites* (*Agathæa*), which are pegged down. Rising from these are Tuberous Begonias, seedlings of the current year, mainly pink and white varieties, with here and there a taller plant of *Begonia Vesuvius*, an occasional yellow *Marguerite*, and *Grevillea robusta*, the latter giving character to the bed. The edging is raised and planted with *Herniaria glabra*. Between the Fuchsias a slender plant of variegated *Ageratum* is growing, the silvery leaves of which contrast pleasingly with the dark purple of the flowers.

Alongside of the latter bed is another like it in size and shape, containing a mass of *Lobelia cardinalis* in rows just wide enough to prevent the leaves of one plant touching those of its neighbour. As the flower spikes exceed 3 feet in height the effect of such a mass of colour can easily be imagined, especially when in contrast with such a pleasing green cushion-like base as *Sedum Lydium* provides. The edge of the bed is raised with *Antennaria tomentosa*.

In another bed 14 feet long and 8 feet wide Tuberous Begonias are planted at such a distance that they do not quite touch each other. The colours are mixed judiciously, which gives more variety than would a mass of any one colour. At intervals of about 2 feet single stemmed plants of *Abutilon Thompsoni* are growing, the large golden mottled leaves contrasting well with the bright colours below, and relieving also the evenness of the bed generally. As the soil is carpeted with *Sedum glaucum* the effect of the rich crimson and deep scarlet of some of the Begonias is enhanced. The edge is raised and planted with *Echeveria secunda glauca* intermixed with *Veronica repens*. A narrow band of the latter also divides the glaucous *Sedum* from the *Echeveria* of the same tint. Either at a reasonable distance or on close inspection this bed has many admirers.

A circle 4 feet in diameter has growing in the centre a good plant of *Dracæna indivisa*, under which is a thick carpet of *Coleus Verschaffelti*, banded with a raised edging of *Mesembryanthemum cordifolium variegatum*. The effect of the three colours is charming, I never saw *Coleus* with a better shade on them than at present.

An oval-shaped bed 12 feet long has in the middle three strong roots of the double *Helianthus Soleil d'Or*, nearly 3 feet apart and 5 feet high. The centre of the bed is planted thinly with *Begonia Vesuvius*, and the ground underneath carpeted with the blush white *Begonia Princess Beatrice*, dwarf and floriferous. The edging is a raised one of *Sedum azoideum*; hanging over this and planted just within is a full row of *Linaria reticulata aurea*, which imparts colour, freedom, and variety to the bed.

Perhaps the most showy bed in the garden is one wholly planted with double Zinnias, except a narrow edging of *Viola Ardwel* Gem, which serves the twofold purpose of giving a colour which is not obtainable among the Zinnias, a soft yellow, and of hiding the stems. The plants were laid in a sloping direction, which made the pegging down much easier and produces a more uniform height. The edge of the bed, which is 24 feet long and 12 feet wide, in places, is raised and planted with *Echeveria secunda glauca*, *Veronica repens* being planted amongst the *Echeveria* as a setting to the glaucous-tinted succulent.—E. M.

### WATERY VEGETABLES.

VEGETABLES are always largely composed of water, but with so much rainfall and no sunshine worthy of the name they must be far more watery than usual. Apparently this does not materially affect their quality; in fact, as far as this is concerned, vegetables are better when grown with the aid of abundance of water than they are when too little of it falls to their share. What we are most concerned about, then, is the effect of so much water in their composition on their keeping properties. That coarse over-grown samples of various roots, notably Onions, Carrots, Parsnips, Turnips, and Beet, rarely, if ever, keep so well as do medium sized to small samples, cannot be denied, nor are they desired from a cook's point of view; but to all appearances they are in the ascendant



this season. Much the same remarks apply to various other winter vegetables, notably Brussels Sprouts, Broccoli, Savoys, Chou de Burghley, and Celery, all of which are growing far too rankly to please experienced gardeners. With the ground in such a wet and cold state, there being little likelihood of its getting any warmer this year, frosts may reasonably be expected both early and severe, and it is not unlikely that the vegetable crops may be cut even more severely than they were last winter.

It is to be hoped, however, that the majority have profited by the experience of the past, every effort having been made to grow more of the hardier or most reliable kinds of vegetables, steps also having been taken to prepare the less hardy kinds for severe weather. We have always grown a moderately large breadth of Seakale, but this year I have put out three times more than ever before, and the variety, Lily White, being very superior to the old form, the probability is that not a root too many will be prepared, either for forcing or cutting from where grown. Jerusalem Artichokes, Salsafy, Scorzonera, early raised breadths of Turnip Chirk Castle Black Stone, and young Carrots are among the most reliable winter vegetables, and abundance of these ought always to be grown. If somewhat scarce, then what there is of them should be taken good care of till other less hardy vegetables are less plentiful. There would be fewer failures with Celery if this was heavily banked up with soil before severe weather sets in, not more than half of the leaves, or even less, protruding after the final moulding is given. If the stalks are badly frosted decay soon spreads to the hearts, but when only the leaves are crippled the keeping qualities of the Celery are not greatly impaired. The Turnip-rooted Celery ought also to be taken good care of, roots well moulded over keeping well, and form by no means a despicable vegetable. Let Brussels Sprouts have abundance of room—even if this necessitates drawing a considerable number of plants—and they will then solidify considerably, producing closer sprouts, and prove hardier in consequence. Crowding is even more fatal to Broccoli. Much-drawn plants are certain to lose their lower leaves early, and the exposed stems, being the most vital part of the plants, collapse after only a moderately severe frost. After the experience of the last winter more gardeners than formerly will be disposed to lift and store the greater portion of their breadths of Veitch's Protecting Broccoli before severe frosts set in, and thereby be certain of a good mid-winter supply of medium-sized, well-blanching hearts. It will also be in accordance with the same idea to lift and bed in a considerable number of plants of later varieties where they can be heavily protected with mats, bracken, or dry litter whenever severe frosts are imminent.

As it happens there is yet plenty of time to think of these various protective measures, but there are a few other matters that will admit of no delay. For instance, it is scarcely possible to overrate the value of a good supply of Mushrooms during the winter, these constituting a dish hard to surpass on either the breakfast or dining table, cooks also putting them to other good uses. As a rule Mushroom houses proper are far too limited in size, but they are almost indispensable during severe winters. Mushrooms can be and frequently are grown in a variety of places other than the orthodox house, but in hard weather little dependance can be placed on any beds not given the benefit of a little fire heat. Instead, therefore, of filling the houses at this early date or any time before October, with beds that will most probably be exhausted before cold weather sets in, the wiser plan is to form the early beds in various makeshift positions, including open sheds, disused cellars, stables, and such like, forming the principal winter beds in the heated Mushroom house. Ridge-shaped, open air beds, properly managed, are remarkably productive, and these ought always to supplement those formed under cover of any kind. Where failures with these ridge-shaped beds occur they are often traceable to either the use of too raw or too fine materials. Not thoroughly well prepared by repeated fermentation and turnings, such a solid mass of manure is certain to heat too strongly, this perhaps both destroying the spawn and quite unfitting the material for the growth of Mushrooms. It must also be borne in mind that a considerable amount of somewhat short straw or fully one-third of the bulk of the heap should be kept with the horse manure, or it will not hold together or answer well in other respects. Wright's "Mushrooms for the Million" ought to be in the hands of all would-be successful growers.

Tomatoes, again, are of the greatest value, either as a vegetable or salad, during a hard winter, and with such a prospect before us of the early collapse of various watery vegetables, the attempt to keep up a supply of Tomatoes during the winter ought to be made on a larger scale, it may be, than usual. Instead of closely stopping all the plants in Peach houses and cases, vineries, and other places, where they are treated as supernumerary crops, let some of the leading growths extend and set clusters of fruit, and these will most probably ripen, or can be ripened during the winter.

Plants in various other heated houses and pits, now nearly cleared of their crops, may easily be induced to start afresh into active growth. Removing some of the old soil, watering with liquid manure, and then giving a top-dressing of good loamy compost, also keeping the structures somewhat closer and warmer than heretofore, quickly have the desired effect. A moderate number of young shoots being reserved on the old stems these will flower and set good clusters of fruit long before the winter sets in, and the maintenance of a somewhat dry but not strong heat during the winter will insure all ripening in due course. If there are no old roof or other plants to renovate, nor no young ones that can be put out in ridges of soil or potted, then lift some of the healthiest of those growing against dry warm walls. They will move without experiencing much check, and the fruit already set on them ripen well.—W. IGGULDEN.

## FRUITERS AT CRAWLEY.

ON Saturday last several members of the Court of the Worshipful Company of Fruiterers visited the nurseries of Messrs. J. Cheal & Sons. They travelled in a saloon carriage from London Bridge, Sir James Whitehead, Bart., Master of the Company, meeting them at Three Bridges Station from Eastbourne. Crawley Station is the nearest to the nurseries (a little more than a mile), but Three Bridges and Horley have better quick train accommodation—that is to say, are "stopping stations" for several of the London and Brighton expresses. The distance from these stations to the nurseries is about three miles, and a drive on a fine day along the Surrey and Sussex roads and lanes is very delightful. Amongst the company were G. J. Brocklesby, Esq., Upper Warden; H. Martin, Esq., Renter Warden; and Past Masters G. Cutt, W. N. Froy, and H. R. Williams, Esqs. A. H. Smee, Esq., and other gentlemen were present, also some ladies. All were greatly interested by an inspection of the fruit and Dahlias for which the nurseries are famed, and more than satisfied with the pleasant reception accorded them by Messrs. J. & A. Cheal. They had also much pleasure in meeting Mr. Cheal, sen., a gentleman ninety-two years old. He has had to battle against a serious attack of the influenza epidemic, which has conquered so many, but his sound constitution shook off the enemy, and the nonagenarian is now active, vivacious, and well.

Twenty years ago the site of the chief nursery was unbroken common, the land so heavy and wet that local farmers considered it worthless, and would have left it to its fate. Not so the Messrs. Cheal. They believed that by drainage, cultivation, and tall sheltering hedges they could do something with it. They have done a great deal, not for themselves alone, but for the district. Previous to their possession of the land it afforded practically no employment to men who live by their labour, but now the 65 acres afford regular work for sixty-five persons. The staple of the land is sound—a "holding" clayey loam, and when ameliorated soil of that character is highly productive. In the Lowfield Nurseries some parts are heavier than others but none light, and by adapting the crops to the soil all appear to thrive exceedingly well. Conifers, Rhododendrons, various kinds of ornamental trees and shrubs, Roses, Dahlias, hardy and herbaceous plants thrive quite as well as the fruit trees, and these are as clean, healthy, and productive as anyone could wish for trees to be.

Naturally the "Fruiterers" first desired to see the fruit. Passing under a tunnel of Pears, the trees planted close to the side of the walk and trained over as single cordons, a liveryman observed that it was the best method of turning paths to account he had seen, and thought many gardens might be improved in appearance and productiveness by similar canopies of fruit. "Hedges" of Apples and Pears were also greatly admired, the former trained diagonally across each other, forming a sort of diamond fruit fence, the trees sustaining each other, and the Pears trained obliquely to wires stretched from post to post 7 or 8 feet high. The trees were laden with fruit, and it is not conceivable that an equal weight could be obtained from the space occupied so inexpensively in any other way except trained in the same manner to a boarded fence with a southern aspect. The Pears on such a fence were bearing fine fruit in the greatest profusion, and it was thought by more than one visitor that the value of this one crop was equal to the cost of the boarding. "Is it the soil or the climate, Mr. Cheal, that does so much for you?" asked the Master. "The soil, Sir James," was the reply, "is what we have made it out of the clay, by working and top-dressing, and as for the climate we have been deluged with rain—yesterday the paths were full of water." "Yet," was the rejoinder, "some newspapers tell us that fruit cannot be grown in this country; it is here, however, and we must be allowed to believe what we see." There were certainly plenty of Pears to be seen, indeed no room for more on the trees or the



fence. The proprietors of this nursery believe in cordons, and all available board space or wall space is occupied with them, and they have taught numbers of visitors to believe in them too.

Passing onwards, large trees as well as small ones are found in the collection—trees trained as well as untrained, productive bushes as well as heavily laden orchard standards. Among the latter several trees of the Sussex cottager's Apple, The Forge, were, as they are every year, bright with clusters of orange-red fruits, the glow of colour being produced by the numerous crimson streaks on a yellow ground. This Apple, as is correctly stated in Dr. Hogg's "Fruit Manual," "originated at the Forge Farm, near one of the old forges in Sussex, near Crawley," and it is described as "the cottager's Apple *par excellence* in that part of Sussex which is conterminous to Surrey and Kent." That is so, for trees are seen in gardens on both sides of the border lines of those counties. It is said they bear "regardless of weather," and if one should be found with few or no Apples it is because of the heavy exhausting crop of the previous year. It may be expected that the Forge Apple would bear in other districts as well, but only in strong fertile soil would the fruit be large enough to be useful. It is essentially an Apple for home use, and too small to grow for sale. Few surpass it when cooked, and in October and November the fruit makes a bright dish for the table. The flesh is tender, juicy, sweet, and agreeably perfumed.

Standard trees of Devonshire Quarrenden, King of the Pippins, Keswick Codlin, Betty Geeson, Dutch Mignonne, and several other Apples, also of The Czar, Victoria, and Early Transparent Gage Plums were heavily laden, but many of the fruits of the latter cracking through excessive wet, not bursting through the pressure of sap, but splitting by the transmission of moisture through the cuticle. It is, however, on the three or four-year-old bush trees on Paradise stocks that the finest Apples are to be seen. There must be a bushel of saleable fruit on some of the Stirling Castle trees from 4 to 5 feet high. Duchess of Oldenburg was bearing its beautifully streaked fruits abundantly, good alike for cooking and eating. Lord Grosvenor was laden with very large fruits, and has quite superseded Lord Suffield at Crawley as well as in many other districts. Professor is a favourite Apple of the Codlin type with Messrs. Cheal; fruit large, conical, of the richest golden yellow of all, the tree hardy, with a free sturdy character of growth. Lane's Prince Albert attracted attention by the full crops of handsome fruit, as also did The Queen, the fruits striped similar to those of Duchess of Oldenburg, but larger. Bismarck was large and highly coloured, and Worcester Pearmain all aglow with its rich red fruits. Yorkshire Beauty was producing yellow red-flushed Apples in abundance; and there were beautiful examples of Lady Sudeley, full crops of Cox's Orange Pippin, and fine clusters of the symmetrical Hormead Pearmain. Besides those mentioned Messrs. Cheal have planted in an orchard for bearing standards on Crab stocks, Newton Wonder, Blenheim Pippin, slow in bearing, but they can afford to wait; Ecklinville, Golden Noble, New Hawthornden, Potts' Seedling, Warner's King, and Winter Queening, which they find well adapted for their clay soil. Of the early summer Apples Mr. Gladstone is the first in and the first over, the richly coloured fruits being excellent when "caught just right," but soon turn mealy, and the Red Juneating and Astrachan last a little longer.

Some of the city visitors were much interested in the process of budding, which was going on briskly over 40,000 stocks. One of the ladies was fain to try her hand in the operation, which she performed remarkably well. The tree is marked, and will some day bear fruit—presumably in her garden at Putney Heath. Standard Peach and Nectarine trees in pots, bearing and ripening good crops in a sheltered position, were lingered over admiringly, the trees not having been placed under glass for protecting their blossoms.

Apples are not grown under glass, but Pears are in a most satisfactory manner. The structure is a steep, light, span-roofed one unheated, the Pears planted about 15 inches apart, and trained up the roof as cordons. They are bearing full crops of fine fruit, and suggest that such houses would be both interesting and useful in gardens where certain crops of the finest Pears are coveted. An inspection of the double cased, double windowed, and double doored fruit room was inspected, in which Apples kept perfectly last winter without the aid of artificial heat, though the frost outside was prolonged and intense, the thermometer registering down to zero.

After the fruit came the Dahlias. The "Tom Thumbs" were proving all that has been said about them. They are dwarf, sturdy, and floriferous, only a few varieties exceeding a foot in height. The demand for them has exceeded the supply, and they have probably a bright future before them, and will brighten many gardens. The flowers are single. The general stock of single Dahlias is very extensive. Among the most distinct and beautiful

of this and last year's varieties raised in the nursery and certificated at Westminster are T. W. Girdlestone, Miss Glasscock, Eclipse, Gulielma, Northern Star, Duchess of Albany, and Victoria. Two of Mr. Ware's varieties, Miss Ramsbottom and W. C. Harvey, were also greatly admired. Cactus Dahlias are in strong force, and they have to be, so great is the request for them. Two of the finest are Duke of Clarence, rich glossy maroon crimson; and Beauty of Arundel, a rich crimson purplish tipped sport from Juarez. Black Prince, Mrs. J. Douglas, Asia, and Panthea have also a host of admirers. Of show and bouquet varieties the collection is large, but there is no space left for a selection of the varieties, and all the best from here and elsewhere will soon be on view at the Crystal Palace. The close and lofty sheltering hedges of Hornbeam and Thorn 9 or 10 feet high, and neatly clipped, which intersect the nurseries, have proved invaluable in sheltering both the Dahlias and fruit trees from the boisterous gales that have lately swept over the district.

After the luncheon, which was provided in a large marquee on the lawn, Sir James Whitehead expressed, on behalf of the company, the pleasure that had been experienced and the instruction gained by the visit to the extensive, well furnished, and admirably kept grounds; also thanked Messrs. Cheal for their courtesy and unstinted hospitality. The brothers responded in appropriate terms, most of the visitors then departing, a few, however, lingering behind for a second look round.—A. FRUITERER.

### PREPARING FOR FRUIT TREE PLANTING.

IN the preparation of ground and other work connected with the planting of fruit trees much may be done at the present time. There are so many small items in connection with fruit culture demanding attention that it is not always wise to leave everything to be done when days are short and atmospheric conditions not by no means so favourable. Where a large collection of hardy fruit is grown there must of necessity be always something to renovate, also to remove and make room for something more worthy. A good plan is to take a look round the trees, and jot down the names of any which require root-pruning, removal, &c., for it is not prudent to trust to the memory alone to carry one through. The gardener's duties are so multitudinous that it is easy to forget something, so that notes are invaluable. As regards varieties it is needless to traverse the same ground over again, for time after time the advice given in these columns is, "To plant only good varieties which are known to succeed in each district, and which will amply repay for the trouble." Then add style of training, and order early from a good firm; nothing is gained by buying the rubbish so often seen at some auction sale rooms, for the trees in many instances are not worth the trouble of planting. Besides, early orders ensure the most prompt attention, and naturally the best trees are forwarded.

If new plantations are to be made the ground ought to be drained thoroughly, trenched, and if at all poor have plenty of decayed manure incorporated with it, and all made in good working order for the reception of the trees at the proper season. Where old trees are taken up and young ones have to be substituted the ground should be well broken up and all old roots picked out. As much of the old soil as can be conveniently removed should be, and fresh added with the compost in which the trees are to be planted. Good fruit growers will have much of the compost ready, but where it is not so the sooner the work is accomplished the better. Cuttings of hedges which have been clipped and useless wood out of the shrubberies are charred. Old hotbeds are wheeled out and plenty of manure provided, and what loam we can spare, with lime rubbish, or if this is not available some slaked lime, the whole being turned over several times, form the chief elements with which our trees are annually dressed at the roots. This if mixed now will be in the right order when required a few weeks hence. In districts where the soil is good this compost may not be required for newly planted trees, but here (near Liverpool), where we have in many instances a cold clayey subsoil and the ground throughout of a rather cold nature, we find it the one thing needful. Good stout stakes for the newly planted trees ought also to be prepared, and labels of some approved pattern, so as to be in readiness when the work commences.

The advantage of making possible provision now for planting when the time comes cannot be sufficiently estimated by those who delay all such matters to the last. On the one hand those who are prepared can choose fine days and get through a large amount of planting, whilst on the other the work is delayed by having to look for and prepare all kinds of things; the trees, if the weather is unfavourable, being planted in a way neither favourable to their growth nor creditable to those who have charge of them.—R. P. R.





LYCASTE COSTATA.

A PECULIAR Orchid in its floral colouring is *Lycaste costata*, of which a drawing is reproduced in fig. 29. The sepals and petals are greenish, the lip white or yellow tinted. It was received from the Cordilleras over thirty years ago by Mr. R. Hanbury, and is still found in collections of Orchidic curiosities. A plant was shown at one of the Royal Horticultural Society's meetings this year, when it attracted attention even amongst many brightly coloured and handsome Orchids.

#### ORCHID NOMENCLATURE AT KEW.

"THE Royal Kew Gardens Bulletin of Miscellaneous Information" for August contains some interesting information with regard to Orchid nomenclature, and the authorities deem it desirable to state the position of Kew with regard to this matter. In no other country are pains and money so lavishly expended on the cultivation of the plants of this family as in England. In no other country are so many species to be found in a living state as in our private collections. And a large capital is invested in the commerce by which these collections are supplied. It is the business of botanical science to furnish such plants with names under which they can be recognised, and with technical descriptions, by means of which the names can be fixed and the plants identified. For this purpose it is necessary that a standard of nomenclature should be maintained by some competent authority. During the middle of the present century this function was performed by the well-known botanist, Dr. Lindley. After his death, his admirable private herbarium of Orchids, amounting to 3000 sheets, was purchased in 1865 by the Government for Kew.

In 1863 Dr. H. G. Reichenbach was appointed Professor and Director of the Botanical Gardens at Hamburg, and from that time made the study of Orchids the scientific business of his life. He was speedily recognised as occupying the place of Lindley, and cultivators of Orchids in all countries were in the habit of sending their specimens to Hamburg for identification and determination. Meanwhile, Kew had continued to amass what is, on the whole, probably the largest comprehensive herbarium of these plants. It was Professor Reichenbach's custom to spend in most years a few weeks at Kew, and he had the opportunity of examining and, in some cases, of describing the new accessions. He was, however, in the habit of describing the novelties sent him by correspondents from English collections in the pages of a contemporary, and of these, for the most part, no other record exists at Kew. Thus in the genus *Dendrobium* about 160 species are represented in the Kew herbarium by names above, and in *Epidendrum* as many as 200.

The defect of Professor Reichenbach's method was that he never brought the scattered work of his life to anything like a comprehensive review. To a certain extent he had the clue to it himself, but when oppressed with failing health in the latter years of his life, he seems to have become in some degree overwhelmed with the enormous amount of material which he had accumulated, and it is now ascertained that he often described the same species more than once under independent names.

There is the further difficulty that he was not a felicitous expert in the art of describing plants, and from his bare descriptions alone it is often all but impossible to identify the species which he had in view.

This difficulty would not have been considerable if after his death in 1889 he had, as it was confidently expected he would do, left his herbarium to some public institution where it would be open to the inspection of those who took up his work. For reasons on which it is easy to speculate, but for which it is difficult to account, he bequeathed his collection to the Imperial Hof Museum at Vienna, on the condition that they should be sealed up for twenty-five years. This singular provision undoubtedly placed the "Orchid world" in a rather cruel position. Reichenbach was no longer available to give them names; and his herbarium was not accessible to ascertain what he had done in the past. To this no one having an unnamed Orchid in his hands possessed very much in the way of a clue. Nevertheless something had to be done, and amateurs of Orchids turned to Kew for help. It seemed a proper part of the functions of the national botanical establishment to render all the assistance in its power as regards the solution of purely botanical problems. Kew was not, as will have been seen, on the whole, badly equipped for the task. In the first place it possessed Lindley's collections, the classical starting point of systematic

orchidology. Next, Mr. Bentham had devoted two years at Kew to the elaboration of the family for "Bentham and Hooker's Genera Plantarum." This was published in 1883. Bentham thoroughly sorted the copious material at Kew into genera, which he defined on a clear basis.

Reichenbach's works upon various collections preserved at Kew, which he described and published, is of course available here. Moreover, Sir Joseph Hooker, during 1888-90 thoroughly worked out the Orchids of India, amounting to about 1300 species (in 113 genera) for the fifth volume of his "Flora of British India." Not to speak of other countries, the collection of South African Orchids is pronounced by Mr. Bolus, F.L.S., their most recent monographer, to be the most complete in existence. The Kew collection of living Orchids now amounts to 1400 species, the nomenclature of which is all carefully determined; the most recent enumeration of the number of existing species is that of Sir Joseph Hooker, who puts them at 5000.



FIG. 29.—LYCASTE COSTATA.

On the whole Kew probably stands in a better position to serve as a standard of Orchid nomenclature than any other botanical establishment. The only real difficulty in its way is how to deal with Reichenbach's indeterminate descriptions and nomenclature. Various correspondents have, however, rendered very useful assistance in filling up this gap by the communication of specimens from living plants which Reichenbach had named. Much more might be done in this direction, and in time it can hardly be doubted that the vast proportion of Reichenbach's types might be recovered. There is, however, always the risk that when an unnamed Orchid cannot be run down in the Kew Herbarium it may not really be undescribed, but may be lurking somewhere with a name in Reichenbach's collections. This, however, is a problem which, for the next quarter of a century, cannot be solved. For practical purposes it has, therefore, been decided to assume that such an Orchid is new, and to describe it with an appropriate name. This task has been entrusted to Mr. Rolfe, one of the assistants in the Kew Herbarium; and as the work will be done in official time, the descriptions will be published from time to time in the "Kew Bulletin."

It must be the aim of every botanist to avoid the multiplication of names and the piling up of synonyms. But the world



cannot wait on posterity, and someone, a quarter of a century hence, may have the patience to disinter from Reichenbach's herbarium, if it is thought worth while, any names which have the prescription of priority. If even so astute and experienced a botanist as Sir Joseph Hooker found himself unable to penetrate the mystery which surrounds many of Reichenbach's names and descriptions, it seems scarcely worth while attempting to rescue them from the oblivion into which for the present they must fall.

### MARGUERITES ALL THE YEAR ROUND.

IF I were asked to name which I considered the most useful of all plants grown in pots for decorative purposes I should unhesitatingly say *Chrysanthemum frutescens*; and although I am prepared to hear that many will not agree with me, I think I can show that the white Marguerite has at least great claims to that distinction when all its good qualities are fairly considered. Because it happens to be a somewhat common and easily grown plant its merits are frequently overlooked. Doubtless it reached the height of its popularity a few years ago when the æsthetic craze was at its height. The ever-changing fashion in flowers brings many plants to the front in turn which have slumbered in obscurity, and after the rage is over they gradually settle down to the position to which their merits entitle them.

Marguerites have now won for themselves a prominent position with all who have much experience in decorative work. Although comparatively easily grown they are not as a rule cultivated so well as they should be. Market growers find that there is an enormous demand for them at good prices. Not long ago an old friend who is growing a quantity for market, wrote to ask my opinion as to the best way to manage the plants in order to produce good flowering examples during the spring months, as he knew I took great interest in them, and had at various times grown them largely in a great variety of ways, and in sizes ranging from useful decorative plants in 4, 5, and 6-inch pots up to gigantic specimens 6 feet in diameter.

Propagation is easily performed at any time of the year, and should be constantly going on, as in this way an unbroken succession of flowers may be kept up throughout the year; and these charming plants are useful alike for supplying cut flowers and for decorative purposes. A good batch of cuttings should be put in at the present time, which will supply flowering plants in pots from 4 to 6 inches in diameter during April and May next. We dibble the cuttings into boxes and place them in close frames or handlights at all times, and by preventing the leaves from flagging by shading and sprinkling we find they root very quickly, and grow freely. Good leaf soil and loam in equal proportions with sand added form our favourite compost for cuttings, but where sweet and good leaf soil cannot be obtained substitute peat or cocoa-nut fibre refuse. In addition to the cuttings that are put in now, another batch should be inserted at the end of October, and another in January, a regular succession being put in every month from that time onward throughout the spring and summer months. Spring-struck cuttings make plants quite large enough for bedding purposes. Our own, which were struck at that season, are now a mass of flowers. Plants rooted in June are now well set with flower buds at the point of every shoot. These will give a good supply of flowers in October and November, and others just potted off will succeed them. In selecting cuttings choose short jointed, sturdy shoots, as although any part of the stem will grow these make the best plants.

As soon as the plants begin to grow take out the point of each, and when young shoots begin to appear place them in 3 and 4-inch pots. We flower a limited number in the latter size, and as from the first stopping they generally produce three or four shoots they are not again stopped, but any odd flowers which appear are removed till the shoots become strong, then they flower profusely. Those which are transferred to 5-inch pots are stopped once more, while those which go into 6 or 7-inch ones receive an additional stopping or two, according to their strength and the number of shoots they have. A cut-back plant is much more productive for anything large than the last-named size. At each potting the soil should be rammed thoroughly firm to produce sturdy roots, and to store as much food as possible into a small space. Like all other *Chrysanthemums* the Marguerite is a gross feeder, and is also very partial to soot. After trying many composts we find the following gives the best results:—Two parts loam, one leaf soil, one fresh horse droppings, and a 6-inch pot of soot added to each barrowful.

In order to produce large plants the largest of them when they have done flowering in May should be cut back to two or three eyes. As soon as they begin to grow again knock them out of the pots, remove part of the old ball, cut the roots with a sharp knife; see that they are thoroughly moist, and plant in moderately rich

soil in an open position out of doors, where, if they they are well attended to in watering should the weather be dry, they will quickly grow into fine heads. About the second week of September put them into suitable size pots, and place them under a north wall, or in some other shady position, and syringe once or twice a day if bright weather prevails. As soon as danger from frost threatens place the plants under glass. A vinery cleared of fruit or an ordinary greenhouse will be suitable. Should bright weather follow they will still require to be syringed in the middle of the day.

As soon as an opportunity presents itself after the plants are housed they should be tied out, as that is the time to lay the foundation of a fine plant. Commence by placing a wire under the rim of the pot, and with strong green thread bring the lower branches down so that they rest on the rim of the pot, or as near to that point as possible without running any risk of breaking the shoots. After the lower part of the plant has been dealt with fasten many of the other shoots to neat stakes, so as to have them evenly distributed over the whole surface, the centre of the plant being full and rounded, and each shoot standing quite clear of its neighbours. Stakes will not be required for every shoot, but if they are arranged at regular intervals the shoots in the spaces between can be kept in position by being fastened to the tying material carried from stick to stick. As this tying goes on all strong shoots should be stopped, and by the end of October the shoots which are the strongest then will require stopping, and any flower buds that are showing should be removed. From that time till Christmas remove any odd flower buds which appear. After then let both flowers and shoots remain, and by the middle of May they should be a mass of fresh white starry flowers, which will assuredly receive a full share of admiration.

If very large plants are wanted quickly the shoots may be left from 5 to 9 inches in length at the next pruning, and if any blank spaces occur even longer to get the plant into good form. Where there is no particular desire to secure large specimens quickly prune to three or four eyes, plant out, and treat as above described. Plants that have been used for summer bedding may also be lifted and grown for pot specimens. If room can be spared it is a capital plan to lift a good number of plants from the beds before the frost has injured them, as these supply a quantity of flowers during the autumn months, and if they are then cut back they supply fine cuttings in the spring, after which the old plants can be thrown away.

The only insects that are really destructive to Marguerites are the larvæ of the Celery fly (*Tephritis onopordinis*), and these often work sad havoc amongst them. I believe the only real remedy is to pick off all the leaves infested as soon as the attack is noticed and burn them. This plan should be followed up as long as any trace of the pest is visible. The plants should also be syringed with water in which quassia chips have been steeped. This renders the leaves bitter and distasteful to the fly, which first bores the leaves and then lays the eggs. When plants become very badly infested before remedial measures are taken it is better to burn them and start with a clean stock. It is generally supposed that when these insects abound in any district any Marguerites growing near are bound to become a prey to their destructive attacks. With this I do not agree, as I have frequently noticed that it is the conditions under which plants are often grown which predispose them to such attacks. Surround them with conditions congenial to their requirements, give them liberal treatment, and there need be no dread of the pest which sometimes proves so destructive. A dry atmosphere, or continued dryness at the root, will quickly bring the plants into such a debilitated state as to render them unable to resist the attacks of the leaf borer. I have seen fine healthy plants lifted in September, which were not given the requisite amount of shade and syringing, badly attacked a week after they were lifted. Other plants which were carried safely through that period by good attention sometimes fall a prey to the attacks of the same enemy shortly after they are housed, the great change from the cool dewy nights and the shady position they occupied in the open air to the dry atmosphere of a vinery during bright days, such as often follow frosty nights in October, undoubtedly bringing about, in my opinion, such an undesirable result. Prevention could have been effected by thoroughly syringing the plants during the middle of the day, and in some cases shading as well. These are all useful lessons learnt by observation.

Marguerites, being gross feeders, require plenty of water and a regular system of feeding when the pots are crammed with roots, indeed they require far more water at the roots than the show types of *Chrysanthemums*, and quite as much feeding. Soot water given two or three times weekly keeps the foliage good in colour. Weak manure water made from the drainings of stables should be given once a day if the plants require watering so often, and an occasional dressing of the artificial manures regularly advertised



is of great benefit. All plants growing in pots in the open air should be syringed once a day in bright weather, and when the flowers begin to unfold should have the protection of glass.

*Chrysanthemum frutescens* (white) and *Etoile d'Or* (yellow) are the best varieties to grow.—H. DUNKIN.

### RAGLEY.

THE British as a nation may well be proud of the many palatial residences that are scattered throughout the kingdom, surrounded as they are in many instances by extensive and beautiful gardens. They stir up within our minds admiration for the beautiful in both Nature and Art, and by reason of their splendour tell of the greatness and prosperity of the past, in times when these massive piles were built, and the grounds around them laid out with so much taste and judgment. Ragley, the fine Warwickshire seat of the Marquis of Hertford, fully answers to the above description. It is situated about fifteen miles from Warwick and one mile from the quaint old town of Alcester, which was evidently built at a time when architectural adornments were not indulged in for ordinary dwelling houses; and even now those remnants of the past, thatched and mossy roofs, still remain in the outskirts of the town, while the overhanging gables of the other houses and the crooked walls show that strength and substance in their building received more attention than the production of perpendicular walls.

A pleasant drive through the park, which is chiefly remarkable for its good roads and extensive and well wooded scenery, brings us to the front of the mansion, which lies open to the park, and being on high ground commands a fine view. No part of the flower garden or pleasure grounds are visible from this point, as they are shut off on each side by a long belt of trees and shrubs. The park being very extensive affords ample room for the fine herd of deer to roam in freedom, and they add a distinct feature to surrounding scenes. A large lake at the bottom of the grounds is frequently taken advantage of for holding aquatic sports.

### THE PLEASURE GROUNDS.

On entering these a delightful scene presents itself. Winding walks bordered with grass verges sweep round in graceful curves in many directions. The one which we instinctively pursued led to a charming rosery with a raised Rose temple in the centre, over which the long shoots of climbing Roses were wreathed with deep red flowers. The variety was one of those old semi-double Roses which few seem to know the name of, but all admire when seen in the perfection in which it is here growing. Among the Rose beds the most striking was a mass of that general favourite *La France*. Pegged down shoots were carrying a wreath of fine flowers, and although I am no advocate for the pegging down system for Roses generally, yet in this instance it undoubtedly answered well. A very effective boundary to this rosery is formed by a low hedge of *Cupressus Lawsoniana pendula* and *erecta viridis* intermixed. A long winding walk leads from this rosery to the flower garden, and a charming walk it is, abounding at each step with arboreal beauty. Trees and shrubs of the choicest kinds have been planted extensively, and at the present time are in such vigorous health and so well proportioned in outline as to make one wish they would never grow larger, and so render unnecessary the removal of many of them. This is contemplated, and must be done to allow those left room for development. *Picea Pinsapo*, *P. glauca*, and *P. Nordmanniana* are represented by many fine healthy trees from 20 to 30 feet in height, with every branch perfect quite to the ground; and *Picea nobilis* not quite so large bearing fine cones. As we follow the windings of the walk we come upon stretches of velvety turf, skirted by irregular bands of shrubs, and many fine specimens of the numerous varieties of *Cupressus* till a bright glow of scarlet in the distance arrests attention.

### THE FLOWER GARDEN.

We find that the bright colour noticed on the approach is produced by the flowers of Donald Beaton *Pelargonium*. Old plants are trained to stakes in the form of a pyramid, and form grand objects, especially when seen from the top of the long flight of steps up which we ascend to the heart of the flower garden. A massive square built mansion stands in front, of what style of architecture I know not, but is indeed a stately pile, and two other flights of steps have to be ascended to reach it, so that it is easy to imagine that a fine view is obtained of the flower garden and grounds below it. Nor does the beauty of the scene end here, as the finely wooded portions of the park, the planting of which has been the work of years, have all been carried out with the object of producing a grand view from the terrace around the mansion, and it only requires to be seen to know that the object is accomplished. Below are the large masses of well defined colours in the flower beds, then on a still lower level a long open stretch of park with trees dotted about in picturesque irregularity. Then as the ground slopes gradually upwards a thin and irregular belt of trees begins, which become thick and massive as they extend far away in the horizon. Through the centre of this mass of trees the broad green sward extends upwards as far as the eye can reach, and being shaded on either side by the leafy canopy above, it forms a delightful retreat, which seems to impress the on-looker with a sense of quiet repose.

To describe the flower garden in detail is a task by no means easy; but I will attempt to give a faint idea of the grandeur of the scene—grand, because everything is on so large a scale: imposing, because distinct colours are produced in large masses; and it seems well nigh

impossible to have the beds too bright in colour on account of the large number of green trees around. Standing on the terrace already mentioned the two ends of the flower garden immediately in front are in the form of half circles; the one nearest the mansion is formed by a sloping bank of grass. At the base of this a level strip of lawn extends to a broad gravel walk which runs round the whole garden. At the base of the bank round the centre arc four large Portugal Laurels, trimmed into the form of half globes finely proportioned and perfect in shape. From this point a straight walk leads to a fine specimen of *Cupressus Lawsoniana*, surrounded by a large mass of *Gladioli* in the centre of the garden, then a broad band of Marshal McMahon Golden Bicolor *Pelargonium*, an edging of Mrs. Perry, and a narrow verge of lawn. The walk then continues its course to the lower end of the garden, where the half circular form is defined by a well-kept Yew hedge, which is of more than usual interest on account of being marked with bands of the Golden Yew at about every 12 feet, which have a novel and pleasing appearance. Around the central bed already described and divided from it by the gravel walk and grass verge is an imposing group of sub-tropical beds. The beds are filled with Cannas, *Ricinus*, *Wigandias*, and *Nicotianas*, edged with triangles of Beet, Marigolds, and variegated leaved *Pelargoniums*. Around these beds on each side of the central walk large fan-shaped beds, which have the same radius, are cut in the grass, and beyond these a band of long curved beds are arranged, the outline of them corresponding with the arc of the outer edge of the fan-shaped beds. Many of these beds are planted with a groundwork of *Cerastium tomentosum*, with a circle or centre the same form as the bed, filled in with *Pelargoniums*, *Begonias*, or *Calceolarias*. The effect is very good indeed, and is also a good way of economising bedding plants, a matter of some importance, where, as in this case, 100,000 are required for bedding purposes.

Other noteworthy beds were planted as follows:—*Pelargonium* Mrs. Perry, edged with Tom Thumb *Ageratum*; Madame Crousse, with *Alyssum variegatum*; and Henry Jacoby, edged with Manglesi. On the terrace which overlooks the larger portion of the garden some capital beds are cut in two grass panels. The central one is filled with *Coleus Verschaffelti*, edged with Lady Plymouth *Pelargonium*. This has quite a unique appearance. Several attractive carpet beds are also worked out. One deserving special attention is a double coronet, marked out with *Alternanthera* on a groundwork of *Sedum*. The wall that forms the boundary to this terrace has a border in front of it effectively planted in the following way. Back row next the wall *Perilla nankinensis*, next a half circle of *Iresine Lindenii* at some distance from it, the space being filled in with Master Christine *Pelargonium*. In front of the arc formed with *Iresine* is a groundwork of *Mesembryanthemum* filled in with *Alternanthera magnifica*, edged with blue *Lobelia*. The wall is clothed with *Clematis Jackmanni* and variegated Honeysuckle. This was one of the most telling pieces of bedding in the whole garden.

### THE KITCHEN GARDEN AND GLASS STRUCTURES.

These are situated half a mile from the mansion, on much lower ground. The greater part of the garden is enclosed within substantially built walls, and massive iron gates erected at the entrance give it a most imposing appearance. Large breadths of all kinds of vegetables such as are in constant demand for the supply of an extensive establishment were noticeable, but so much time was taken up in thoroughly examining the flower and pleasure gardens as to leave little at our disposal for the inspection of the kitchen garden, which is about six acres in extent, including those portions set apart for hardy fruits. The glass structures are numerous, but scattered. This is likely to be remedied to a great extent in the near future by erecting another range which will connect the principal portions of them. A cool Peach house 100 feet in length was first entered. The trees are trained one-third of the distance up the roof, the back wall being also covered. This gives a large amount of space for the production of fruit. All the trees were carrying heavy crops, Barrington Peach and Violette Hâtive Nectarine being great favourites. We next entered the principal range of fruit and plant houses. The vineries are four in number, and as there is a large demand for Grapes the Vines are heavily cropped. I should not like to conjecture the weight of fruit per running foot the Vines were carrying, but it was certainly considerably above what is generally regarded as a full crop, and the Vines will require high feeding to carry them through. This, however, they are receiving, judging by the heavy dressing of manure on the borders. The varieties in the earliest house are Black Hamburg, Buckland Sweetwater, and Madresfield Court. The other houses are filled with Muscats, Gros Colman, Lady Downe's, Alicante, and Barbarossa (Gros Guillaume). There are also two Peach houses in this range, one being cleared of fruits, the other having a fine crop of Barrington just ripening.

The roof of the greenhouse is covered with *Plumbago capensis*, a fine plant of Maréchal Niel Rose, and *Lapageria*. The side stages were occupied with *Pelargoniums*, *Begonias*, *Fuchsias*, and other plants, with Palms in the central bed, all good for decorative purposes. In one stove two grand plants of *Adiantum farleyense* show that the cultivation of this beautiful Fern is understood at Ragley. Gardenias and Cucumbers were growing in another house both in the best of condition. Among a mixed collection of Orchids, *Calanthes* and that fine old plant *Phaius grandifolius* were in fine condition. Several other pit-like houses of the type which were in vogue when wood was cheap and glass dear are still in use, and are found convenient for wintering bedding plants, and for growing Ferns, Azaleas, and Melons in.



Ragley is a fine example of the home of an English nobleman, and the Marquis and Marchioness of Hertford are fortunate in securing the services of so good a gardener as Mr. A. D. Christie, who is doing excellent work there, and who fully appreciates the encouragement given him by his noble employers.—H. D.



**EVENTS OF THE WEEK.**—The following Shows are fixed for the ensuing week :—September 2nd and 3rd (Thursday), Bath ; 3rd, Dundee and Thame ; 4th and 5th, Hardy Fruit Show and Exhibition of the National Dahlia Society at the Crystal Palace ; 8th, Royal Horticultural Society, Drill Hall, Westminster, with lecture on hardy water and bog plants by Mr. Geo. Paul ; 9th and 10th, show of early Chrysanthemums at the Royal Aquarium, Westminster ; 9th, 10th, and 11th, Fruit Show of the Royal Caledonian Society at Edinburgh. Auction sales take place at Protheroe & Morris' Rooms, Cheapside, London ; also at Bloomfield House, Fareham, Hants, and Beechfield, Doncaster. For particulars see advertisements.

**THE WEATHER.**—Showers more or less heavy have fallen almost every day since our last issue in the Metropolitan district, but the passing storms have been much less violent than are reported from various parts of the country.

— **THE NEW HEAD GARDENER AT CHATSWORTH.**—Mr. Wm. Chester, for upwards of thirty years foreman of the large conservatory at Chatsworth, has been appointed successor to Mr. Owen Thomas, who, as already announced, takes charge of the Royal Gardens at Windsor. Mr. Chester is to be warmly congratulated on a promotion which gives him one of the most important gardening posts in the kingdom, and he has well proved his capacity by a long term of service.

— **ANOTHER SHOW CALAMITY.**—The thirty-sixth autumn Show of the Gateshead Horticultural Society, which was to have been opened on Tuesday, 1st inst., could not be held in its entirety in consequence of a violent gale which blew down the tents. The cut flowers, fruit, and vegetables were conveyed to the Pavilion, and what might have been a good Show was entirely spoilt. Great sympathy was expressed by everyone for the Secretary and Committee who have laboured so hard to make the Show a success. The gale lasted the whole of the day.

— **DEATH OF MRS. KNIGHT.**—We regret to learn that Mrs. Knight, wife of the accomplished British gardener to His Majesty the King of the Belgians, died last week at Laeken in the fifty-fourth year of her age. Those who had the pleasure of knowing the late Mrs. Knight, her goodness of heart, her genuine unaffected hospitality, will be able to realise the loss to Mr. Knight and his family, and will accord him and them their heartfelt sympathy.

— **A YOUNG GARDENER'S DIFFICULTY AND REQUIREMENTS.**—I shall be grateful if any of your readers can advise me through the medium of the Journal in the following circumstances. I am a young gardener twenty-seven years of age, working under glass. The changes of temperature to which I am subjected, especially in winter, cause me to have severe colds which have a continued weakening effect on my chest. I have a strong desire to go abroad to one of the colonies, and being active and energetic with a life experience in gardening, I might be able, in a more genial climate, to follow my occupation with health and profit. I am anxious to know what place would be likely to suit me. Any information will be thankfully received.—J. H.

— **VIOLA ARDWELL GEM.**—This variety has, in spite of the adverse weather, flowered abundantly. In the colour of this Viola, soft yellow, there is a very pleasing shade, admired by all who see it, in a mass especially. To succeed well with Violas in summer they should be planted much earlier than is customary. Where the beds are filled with spring flowers the best thing to do is to see that the Violas are put out of the cutting frame at the end of March into a compost largely made up of leaf soil, so that when the beds are ready the plants can be transferred in such a manner that no check to growth is received. Plants prepared in this way give much better results than those which are allowed to remain thickly together in the cutting frame until finally planted in their flowering quarters.—SOUTHERNER.

— **ECKFORD'S SWEET PEAS.**—I can corroborate what "R. P. R." says about Eckford's Sweet Peas. There are, I think, much better sorts on the way than those he names, but the whole of them must in a year or two be indispensable.—B.

— **GARDENING APPOINTMENTS.**—Mr. T. Patterson, late foreman, East Thorpe, Reading, informs us that he is now gardener to H. M. Pollett, Esq., Fernside, Bickley, Kent. Mr. George Reason has succeeded Mr. J. Dale as gardener at Brancepeth Castle, Durham.

— **PRESTON AND FULWOOD HORTICULTURAL SOCIETY.**—On Saturday evening next, September 5th, the thirty-ninth monthly meeting of the above Society, Mr. Alfred Waters, The Gardens, Hopwood Hall, Middleton, will read a paper on "The Use and Abuse of Watering and Syringing."

— **THOMSON'S BLUSHING BRIDE CARNATION.**—Mr. William Dean sends us blooms of this new self Carnation. He says, "The plant is a good grower with stout footstalks, has a capital pod, and when known will be a popular market variety." We have only to add that the petals are broad and smooth, and the blush-white blooms clove-scented.

— **MR. DAVID T. FISH.**—We hear that Mr. Fish, Hardwicke, Bury St. Edmunds, whose approaching retirement from private gardening we announced about a fortnight since, is about to engage in the jury work of flower shows, landscape gardening, literature, and probably popular lecturing on horticultural and other subjects, and all his friends will wish him success in his new and wider sphere.

— **CAMPANULA PULLA.**—On the rockery at the present time there is no more interesting or showy plant than Campanula pulla. The violaceous blue of the small bell-like flowers, which are terminal, give a shade most difficult to compare. The plants grow in neat tufts about 4 to 6 inches high. In soil of a light character it succeeds the best, a heavy retentive one not being favourable to its growth.—E.

— **ERYNGIUM AMETHYSTINUM.**—Almost all plants, especially hardy ones which bear blue flowers, are sought after no matter at what period of the year they may blossom, and there is little wonder, therefore, that the amethyst blue of this plant is appreciated during July and August. The growth is of a compact character, easily supported, in fact almost self-supporting. For cutting it is valuable, the flowers lasting fresh a long time in water. A large number of plants can soon be raised by seed or division of the roots.—S.

— **WEATHER AT LIVERPOOL.**—The weather here still keeps of the most unsatisfactory character, the damage done by the storm of the 25th ult. being in many places considerable. Bushels of Apples were blown down, as well as Pears and other fruit, and Chrysanthemums met with a large number of mishaps. Such a severe storm as this is a rarity in the month of August. To day is the last day of the month and the rain has been incessant. Potatoes are badly diseased and harvest prospects look extremely gloomy. With what pleasure we should hail a warm and sunny September.—R. P. R.

— **THE WEATHER DURING AUGUST, 1891.**—During the past month we have experienced very dull stormy weather, and on the whole have had very little sunshine. Strong winds from the S.W. have been very prevalent, and blown a quantity of fruit off standard trees, whilst the bush, pyramid, and espalier form of trees are unhurt. Rain fell on twenty-four days. Maximum in any twenty-four hours, 1.13 inch, on the 21st ; minimum 0.01, on the 16th ; total for the month 3.70, against 2.64 in 1890. In spite of the dull season I gathered good fruits of Early Louise Peach outdoor on a south wall on the 4th inst. They were very useful, as they took the place in the dessert dishes of the late Strawberries. This Peach comes in with me about the same time as Early Beatrice, and produces much larger fruit.—E. WALLIS, *The Gardens, Hamels Park, Buntingford, Herts.*

— **THE WEATHER IN HAMPSHIRE.**—The weather has been very showery of late, and bad for harvest operations. On the 21st inst. we registered 1.88. As showing the equality of the downfall in two places two miles distant, 1.85 was registered at Bishop's Waltham, which is considerably lower than the situation of Swanmore Park. On the 23rd, from a thunderstorm, half an inch fell in twenty minutes, bringing the total rainfall for the present month up to 3.98, which is considerable for the first three weeks in August. It is a curious coincidence that last year on the 17th of the month we registered 1.85. In the low lying gardens, especially in stiff soil, Potatoes are very badly diseased.



Instances occur where it is difficult to find a sound tuber. A few can be found, but not many. Tomatoes as an outside crop are about ruined by the disease, although a short time since they promised remarkably well.—E. MOLYNEUX, *Swanmore Park*.

— WASPS.—“We have many wasps now,” writes Mr. F. Geeson, Cowdray Park Gardens, Midhurst. “Our mode of taking the nests is to pour a little gasoline into the hole, and stop it up till the wasps are stupefied. We take all nests found within a mile, and also, last May, paid for destroying 1667 queens at 1d. each, £6 18s. 11d.” Several wasps were sent, including young queens, but it does not follow that the whole of these, if not caught, would pass the winter and found future colonies. It is most desirable, however, to prevent the possibility.

— CACTUS AND DECORATIVE DAHLIAS.—New forms of this popular section continue to be introduced, and great as have been the improvements previously made the latest additions will mark a still further step in advance. There has been some tendency to deviate from the true Cactus form, but we are brought back to it by the varieties honoured at the Drill Hall last week. Of these one of the most noteworthy was Robert Cannell, and Swanley Cactus, though less strikingly distinct, is of the correct type. In Kynerith, too, we have a marked advance, the form being good, and the greenish shade which has disfigured so many of the earlier varieties thoroughly worked out.

— BOCCONIA CORDATA.—This is an extremely elegant hardy herbaceous plant not often met with, but it is really a stately and beautiful object, thoroughly adapted for planting on lawns where bold objects are desirable, in positions similar to those in which the various kinds of Pampas Grasses are grown with marked effect. The bold and finely cut leaves of this Bocconia are produced on long tapering stems, crowned with panicles of small buff coloured flowers. The panicles being light and well proportioned appear at a distance like “feathery plumes,” and are highly prized for associating with Asparagus, Gladiolus, and Phloxes in tall trumpet-shaped glasses, and for growing at intervals in the back row of herbaceous borders.—H. DUNKIN.

— TOWN SEWAGE.—The disposal of town sewage and waste has long been the most troublesome question local bodies have had to answer. They have dealt with the matter in different ways, in which they have been assisted or harassed, as the case may be, by various suggestions and criticisms. Mr. E. R. Shapland now comes to the rescue. He advocates in a small pamphlet, published by S. Edgecumbe-Rogers, at Dorset House, Salisbury Square, Fleet Street, London, the disposal of garbage, refuse and sewage, by conveying it in trucks or barges to some selected spot and burying it in large trenches, from which, after a natural process of decomposition, it could be dug and sold as manure. In another part of the pamphlet we are told that 70,000 tons of London sewage sludge are thrown into the sea every month. If to this we add at least an equal weight of dust refuse we have 140,000 tons to be disposed of. Can Mr. Shapland have thought what it means to collect, load, unload, and trench in 4500 tons of such material every day? The problem is not to be solved thus. There are far greater possibilities in an extension of the Kingston system, where the Native Guano Company evolve a cheap, safe, and useful manure out of town sewage without endangering the public health.

— STRAWBERRIES.—A small manual by W. H. Harrison, M.A., Shrewsbury, on “How to Grow, Protect, Gather, and Eat Strawberries,” has been sent to us by the publishers, Messrs. Simpkin, Marshall & Co. The author is an enthusiast, and we have no doubt whatever that he grows well the fruit he loves. His teaching, he tells us, is for amateurs, and not for professional gardeners. It contains many sensible hints—some good grain, but mixed with a large amount of chaff; or, in other words, though readable, is tautological, and as the author himself suggests, egotistical. He cannot have had much experience with gardeners, as he tells us he allows his Strawberry beds to become crowded with runners when he has not time to cut them away, because he has “never found a man sufficiently educated in Strawberry culture to entrust with the task—not one with sufficient judgment to know which of the runners should be taken and which should be left.” This, he goes on to say, may seem “very egotistical,” and that is just what gardeners will think it is, as will those experienced amateurs who know how thoroughly competent many of their professional friends are in growing, gathering, showing, and winning prizes for fruits weighing from 1½ oz. to 2 ozs. each. There really are men who know how to cut off Strawberry runners, though our author has “not had the good fortune to meet with them.” It seems a pity he has not succeeded in

training one during his experience of thirty years. The work is weakened by a number of words and sentences in italics. Yet it may be useful to discriminating amateurs.

— THE SQUIRE AND THE SCHOOLMASTER.—A squire down in Essex, Mr. W. Mellis of Stewardstone, has, it is said, caused to be numbered all the fruit trees in the parish, and he keeps these numbers in a register at the Hall, with the proper name of the variety appended to each. The schoolmaster, Mr. Spink, has drawn up a graduated scheme for teaching fruit culture as a specific subject to his scholars. This has been sanctioned by the Education Department of the Government. The children will first be taught the botany of the Apple blossom and fruit, followed by the difference between seedling and parent, planting, mulching, summer and winter pruning, thinning the fruit, insect pests, packing and storing the fruit. This will constitute the first stage. The second stage deals with the food of fruit trees, manures, course of sap, and the third the art of propagation.

— NICOTIANA AFFINIS.—“L. G., *Chester*,” writes very positively in reference to the duration of *Nicotiana affinis*, p. 156. He is quite mistaken in affirming that it is a hardy annual, for the growth above ground is exceedingly tender, and any seedlings appearing in the autumn would most assuredly be killed to the ground line by the first nip of frost. Other self-sown plants would come up in the spring, as Balsams and Portulacas do, in which case it would be termed a tender annual. However the plant may conduct itself in Cheshire, I have long since regarded it here (near Bristol), as a hardy perennial. Only last spring I dug up a clump of old roots that had started into growth in order to transplant some elsewhere. No artificial protection had been given during the late severe winter, and I am not sure that it is not as hardy as Bindweed, but there is nothing of the “hardy annual” about it, in this country at least.—T. S., *Henbury Hill*.

— THE LONDON PLANE TREES have begun to shed their bark this year somewhat earlier than usual, says a daily paper. The circumstance is the more curious, as though we have had some hot days, there has been plenty of air and a good deal of rain. Generally speaking, the trees seem in excellent condition. Where there is a failure the authorities should make a note now, and renew at the proper time. The trees seem to grow better in the heart of the city than in its outskirts. Those along the Thames Embankment are peculiarly flourishing. In Trafalgar Square they have dwindled a little. The tree in the north-east corner seems dying, and another near it on the east side wants a little looking to. Of course the source of delicacy is not city smoke, but sewer gas. In front of the National Gallery well clipped Bay trees, growing in roomy tubs—the gift of the Metropolitan Gardens Association—give a little grateful colour where it is most needed. The success is so great—the green looks so well next the grey stone—that it is curious the experiment is not pushed a little further. The yard between the railing and the façade of the building might easily be sodded over. London is greener than most large cities, but there is still room for much improvement.

— HEUCHERA SANGUINEA.—A little tuft of this “Alum Root,” which was risked to all the rigours of the late winter, is now in full bloom. This fact, taken with the notes of other cultivators in various parts of the north-east, proves that this excellent plant is, beyond all doubt, hardy as far north as Boston at least. Few plants of recent introduction have attracted such widespread attention, and the number of those as well worthy of cultivation is still smaller. It was introduced from Mexico about ten years ago, and the exertions of propagators were rewarded by rapid distribution in Europe. The demand for the plant is still strong across the ocean, and it now finds a ready sale in this country. The uncertainty as to its hardiness was the principal cause of the neglect which it has hitherto suffered from American growers of hardy plants, but it is likely to receive ample attention in future. The plant forms a close mass of pale green lobed leaves, the entire cluster of foliage being about 8 or 9 inches high. The erect, loose panicles of bright salmon-red flowers attain a height of from 18 to 24 inches, and are produced in large quantity. When in bloom, in established masses, the plant is a never-failing source of gratification. There are, at the present time, many more striking hardy plants in bloom, but certainly none more pleasing. This *Heuchera* thrives best in a light and moderately rich soil. The best situation is one where the roots will be moderately dry in winter, and which affords moisture and partial shade in summer. Propagate by dividing the plants early in the season before growth commences.—(*American Garden and Forest*.)



— AN EXHIBITION OF INSECTS.—While the weather is doing its worst to hurt the seasonable fruits of the earth, the insects are not to be left in quiet enjoyment of their share of the booty. The Paris correspondent of a daily contemporary says that a French Society, that of Agriculture and Insectology, has set on foot a remarkable little exhibition in a corner of the Tuileries grounds with a view of spreading a knowledge of insect pests and the best methods of destroying them. One is struck with the neatness of the exhibits and the co-operative character of the display. Every member of the Society in the Departments was notified that contributions were wanting, and in a short time was informed what were the insects which by their rarity, obscurity, or general importance were most needed. The Government helped with a bonus—small, it is true, but better than nothing—of £120. The Committee in Paris selected from the numberless cases that arrived the best conditioned samples and arranged them under glass in a manner illustrating the stages of their development and the nature of their ravages. One sees the phylloxera burrowing among the roots of the Vine, and the saw-fly and Turnip grub at their destructive work. Useful insects are exhibited side by side, and lectures are given on the exhibits three or four times a week.

### ENGLISH ARBORICULTURAL ASSOCIATION.

THE annual excursion of the members of this Association took place last week at Hexham. Hexham is historically known as the "Heart of All England," a title which the Tynedale inhabitants are all very proud of. It has been the theatre of many stirring events, narrated with much that is interesting by many historical writers, including Surtcees, Hutchison, and others. To all who are now members (the number exceeding 200) a visit to the birthplace of the English Arboricultural Association was naturally attractive.

The organisation commenced in a very humble way at the suggestion of a well-known forester, Mr. Clark of Blenkinsopp Castle, who thought that England should not be behind Scotland in the enthusiasm and earnestness to adopt every means of obtaining information and increasing the desire to induce landed proprietors and others to clothe the hillsides, swamps, morasses, and barren plots of ground with trees to improve the landscape, modify the climate, increase the quantity of genial showers, and ultimately add considerably to the coffers of the landlords of this country. In no previous excursion has the Society seen and had larger experience of what was naturally most unproductive land. In the neighbourhood of Hexham there is some excellent land, well adapted for grazing and productive in every kind of cereal; but there is always, further removed from the Tyne, much very barren and hilly land which has been taken every advantage of for the production of timber. The local council exhibited good taste in bringing the members to Hexham for still further enhancing their knowledge of arboriculture.

The members arrived at Hexham at about 11 A.M., when they first inspected the extensive nurseries of Messrs. Wm. Fell & Co., Wentworth. This firm is well known as one of the largest growers of forest trees in the country. Millions of seedling trees were inspected, the nurseries, by their high altitude, being especially adapted for the raising of forest trees. Larch, Spruce, and Scotch Fir trees predominate, the seed being principally procured from Scotland. This firm is well known in the trade as very large growers of the Whinham Industry Gooseberry; over 125,000 of this useful variety were inspected. But this does not include the firm's stock, as the sales last year exceeded 275,000. Mr. Joseph Robson's nursery was also visited, and gave the members much satisfaction. It is pleasantly situated, and has in recent years been much developed by the present proprietor, who inherited it from his father. A new entrance has been made, and the nursery is noted for its healthy specimens of Coniferae, Alpines, and fruit trees.

After the inspection the party sat down to an excellent luncheon, provided by Messrs. Wm. Fell & Co., in the packing shed in the nursery grounds, after which the members entered carriages and drove to Dilston Castle. This place is a connecting link in the history of Northumberland. It was formerly the seat of the unfortunate Earl of Derwentwater, a nobleman who was loved by everyone in Tynedale; but his adherence to the House of Stuart lost him his life. He was beheaded in 1715, and his estates confiscated. They reverted to the care of the Commissioners of the Greenwich Hospital, and have latterly been sold to W. B. Beaumont, Esq., for £275,000. There was a curious tradition of folk lore believed by the people in reference to the Earl's execution, that the northern lights, or aurora borealis, were never seen till that night. The Castle is beautifully situated, and from it can be seen one of the finest views in Tynedale. The woods are very extensive. Larch and Spruce Fir are principally grown, and there are many fine trees. Many acres of Larch were inspected. The trees had never had any disease. Thinning had been done prudently, removing a few trees at a time frequently. Some of these trees were 20 inches quarter girth, and contained 250 cubic feet of timber, which made them worth from £7 to £10 per tree. Mr. J. Balden, sen., the manager, is proud of them, and justly so.

The party next drove to Stagsham Close House, the seat of Mrs. Straker. Mr. Keag, the head gardener, was guide. A fine avenue of Lime trees was inspected and gave much pleasure; the extensive

gardens, Peach houses and hothouses were also inspected, and the plants found in a good state of cultivation. A call was made at Sandhoe, the former residence of Sir Rowland Stanley Errington, Bart. The grounds are very extensive, and under good cultivation. Mr. Stokes, the head gardener, offered every facility for inspecting them. Some very fine bedding was seen on the lawn; on a sloping terrace large scalloped beds were just filled with *Ageratum* and *Tropæolums* margined with white and blue *Lobelia*. These from a distance had a most excellent effect, while Yew trees cut in all sorts of fantastic designs give the appearance of a French garden at once.

A fine Yew on the lawn is 28 feet in quarter girth, also Larch 70 feet; Copper-coloured Beech, *Abies nobilis*, *Wellingtonias*, *Araucarias*, *Larches* self-sown, and a Silver Fir over 115 feet were admired.

At Beaufront Castle, the seat of Mr. H. F. Swan, some splendid Silver Firs are 28 feet quarter girth, Larch 22 feet in girth, and over 100 feet in height. The girths of the principal trees were taken by the visitors. Mr. Oliver, the gardener, kindly piloted the party along with Mr. Loan, forester. In the grounds there are many fine ornamental trees, including *Platanus occidentalis*, *Liriodendron tulipifera*, *Taxodium sempervirens*, scarlet, yellow, and common Chestnuts, yellow-berried Hollies, and some fine *Pinus nobilis*. From the castle a view of Hexham Abbey has been gained by cutting through the extensive plantation; the sun was just setting and enhanced this beautiful peep view of the ancient town.

After dinner at the Royal Hotel, Hexham, the annual meeting of the Association was held. County Councillor John M. Ridley, Esq., Warwick Hall, was appointed President for the year. Mr. Forbes, Masham, was awarded the silver medal for the best essay, "The Best Method of Successfully Combining the Duties of Foresters and Game-keepers in their Separate Departments." For the essays for next year Mr. J. R. Brown suggested that the best and quickest method of producing a fox and game covert was to keep and preserve game in their various coverts. Mr. B. Cowan suggested that the best way to bring the Society before the landed proprietors of this country was to secure their co-operation and support. Council, Secretaries, Auditors, &c., were all re-elected.

The next morning the party drove to Duke's House, the seat of Mrs. Backhouse, when some very fine Coniferae were inspected, including *Thuja gigantea*, 18 feet high; *Picea grandis*, 50 feet; *P. nobilis*, 45 feet; *P. lasiocarpa*, 25 feet; *Libocedrus decurrens*, a beautiful Spanish Chestnut in full bloom; *Pinus Cembra*, *Abies Albertiana*, and *Wellingtonia gigantea*, 20½ inches girth. This fine place is situated 464·8 feet above the sea. *Abies Hookeri*, 18 feet high, was very fine, a perfect specimen for symmetry and beauty. Many of these very fine trees had been recently transplanted from the woods by a machine invented by the late owner. There is in addition a grand tree of *Pinus Jeffreyi*, also very rare in these parts.

From here the party proceeded to Dipton Wood, or Cosbridge Fell, containing 1500 acres, which belongs to the Duke of Northumberland and Mr. Beaumont. The land for agricultural use would not be worth more than 2s. 6d. per acre. The trees are principally Scotch Fir grown on a sandy peaty soil, which lies on a substratum of sandstone. These plantations were most interesting. Mr. Coxon, head forester to the Duke of Northumberland, was present, and gave a lucid account to the members of the profits realised from these woods. They were planted about eighty to a hundred years ago, and over £10,000 worth of wood has been used for estate purposes. The woods yield a profit of about £1 an acre annually, besides providing a great amount of labour in the district, beautifying these bleak hill sides, and adding to the health of the district. It was admitted that these woods were amongst the best the Society has visited. Mr. Beaumont's East Dipton estate was next visited, where some very fine Larch admired. From here the party drove to Healy, where lunch was provided by the local members of the Council. Isaac Baty, Esq., was in the chair. After Mr. B. Cowan had proposed a vote of thanks to the Council, which was acknowledged by the Chairman, the woods were inspected under Mr. Jewitt's guidance. In 1816 this wild moorland was bought by a Mr. Ormston for £22,000, including 10,000 acres of land, contiguous to which was a wild common, and when it was divided Mr. Ormston planted his share of 640 acres with Spruce and Scotch Fir. He lived to see the trees cut down, and realised the handsome sum of £56,000 net, after all labour was paid, from land not worth 2s. 6d. per acre. All the woods were planted before any wood was cut. In 1832 the receipts were £20 12s.; 1840, £300 18s. 9d.; 1850, £644 9s.; 1860, £2062 14s. 4d.; 1870, £4070, 12s. 10d., and up to the present £56,000 has been derived from them. This experience if brought before the landed proprietors of the country ought to induce them to plant and to encourage the arboricultural societies as much as possible, more particularly as the timber supplies from Norway are diminishing.

At Whiristracores, the seat of H. Silvertop, Esq., an avenue of *Wellingtonia gigantea* has a bold and massive effect, and close to is one of the first specimens sent out by the Royal Horticultural Society. Mr. Marr, the present gardener's father, struck nine cuttings thirty years ago from this tree, which are now grand specimens. The grouping of Coniferae has been carried out here effectively. *Cupressus Lawsoniana*, fine specimens, had a telling effect on the landscape; also *Libocedrus decurrens*, *Abies Alcockiana*, rich glaucous colour; and some specimens of *Picea Smithiana* and *nobilis*, the latter, the finest in the country, planted about eighty years ago, and now 81 feet high.

This trip will long be remembered by the members as affording a great amount of pleasure and enhanced knowledge of the commercial advantage of planting timber on the thousands of acres of waste land



in this country. It would be well if the Government would afford facilities to the County Council to acquire waste lands, borrow money, and plant them, which would eventually bring a good revenue to the country and afford employment to thousands of men. — BERNARD COWAN.

### CRINUMS.

[In reply to a correspondent ("J.") who asks for information respecting the species of Crinums, we give the following notes by Sir Charles Strickland, Bart., read at a meeting of the Royal Horticultural Society last year, and reproduced in vol. xiii. of the Society's Journal. Illustrations of two distinct types are

and in the form of the flowers. The first has columnar, leafy bulbs like a Leek, evergreen leaves, for the most part erect and spreading, and perfectly even, symmetrical, star-shaped flowers on the top of straight, upright tubes, and with upright, spreading, usually straight stamens. This group includes Mr. Baker's subgenera of *Stenaster* and *Platyaster*, between which I cannot see any sufficiently marked line of distinction. A large part of this group comes from Asia, Australia, and the South Sea Islands, especially those with very narrow petals. A few very beautiful forms with wider petals come from tropical America. The other group is the same as Mr. Baker's sub-genus *Codonocrinum*. These are very different in character from the first group. They have round bulbs like an Onion, many of them are deciduous, and others



FIG. 30.—CRINUM PURPURASCENS.

given in figs. 30 and 31, namely, *Crinum purpurascens* and *C. Kirki*.]

In the remarks that I am going to make upon the plants of the genus *Crinum* with which I am acquainted I do not intend to deal in any way with the naming of them. Many of those that I know have had two or more different names given to them, and a large number of the names that I know have been applied to two or more different plants. All that I propose to do is to try and arrange in some kind of order those plants which I have had in cultivation; but as this includes only a part of those described by Mr. Baker and others, it must be understood that a fuller acquaintance with all the recorded species might materially alter this arrangement. I divide the genus into two large groups, which are very distinct from one another both in their habit of growth

which are not quite deciduous grow in a similar manner to the deciduous ones. The tube of the flowers is curved, and the flowers are nodding, bell shaped, and more or less ringent, and with broad petals. The stamens are curved, often lying close together. There appear to be a few species which are more or less intermediate between the two great groups. There are only two or three of these which I have any acquaintance with, but I think that most of the species which I have not seen, which are figured, may be arranged in one of the two groups.

Of the plants with very narrow petals, I have examples bought under various names, e.g., *asiaticum*, *latifolium*, *pedunculatum*, *procerum*, *pedunculatum* from Lord Howe's Island, species from South Sea Islands, species from Japan, *sumatranum*, *bracteatum*, &c., all of them large plants with thick, columnar, leafy bulbs,



large, upright, spreading leaves, and with heads of rather insignificant flowers with purple style and stamens, and all equally with short peduncles, which vary in length in the same head of flowers. Some of these are very near to one another, the plants especially being undistinguishable. The plant from Japan differs from the rest in having very short, broad leaves, and short, blunt petals. The plant I have under the name of *procerum* is figured in the *Botanical Magazine*, 2231, as *C. declinatum*; it is a very tall plant with broad, wavy leaves and very small flowers. *C. sumatranum* (*Bot. Reg.*, 1049) has longer and wider (not upright) petals, and is easily known by the dull, darkish green of its broad, stiff leaves. *C. bracteatum* (*Bot. Reg.*, 179) is a similar plant with leaves of a brighter green and more shining; a short scape and large head of flowers, with much broader, more upright, pure white petals. In *C. amabile* the bulb becomes conical and less leafy, resembling rather more a tall bulb than a column of leaves. So also in *C. erubescens* the column approaches a short conical bulb. In form and habit, and in being stoloniferous, this approaches *C. americanum*, and like that species comes from tropical America. It is easily known by its very dark green foliage, and the scape being mottled like Snakewood. I have three or four varieties of *C. americanum* under various names—*americanum*, *Carolinianum*, *pratense* from Florida, and *Careyanum*, the last being a large form and *Carolinianum* a somewhat smaller one, all equally beautiful. A plant from the seashore, Jamaica, resembles these, but with a very long coloured tube and buds, which are upright before expanding. In this respect it rather resembles the small plant from Fernando Po, *C. purpurascens* (fig. 30), which has flower-tubes longer than the scape. These are the principal of the star-shaped *Crinums* with which I am acquainted.

There are two very distinct species which are intermediate in habit and form of flowers between the star-shaped and campanulate *Crinums* which I have in cultivation. One named *Crassipes* by Mr. Baker, from a plant of mine, has a thick, conical bulb, very thick, broad, upright leaves, ending in a long point, a short scape, and a few upright flowers, not opening wide, and slightly ringent. It differs much both in habit and form of flowers from any of the species which are described and figured. Unfortunately I cannot say whence it comes. I bought it many years ago at Henderson's, where it was growing in a very cold house, and I grow it with the deciduous *Crinums* from the Cape, which are nearly hardy. Then *C. pratense* has a distinct bulb, round at the base, with a tapering neck, very long, narrow-pointed deeply channelled leaves, growing straight upright, and a head of few upright flowers, more campanulate than star shaped, on a short scape. Some of the Australian *Crinums* seem to be allied to this, as far as I can judge from figures.

Of the second great group with round bulbs and campanulate flowers, *C. giganteum* and its allies approach most nearly in habit to the former group. They have evergreen lanceolate leaves. In *C. giganteum* and the plant sold by Mr. Bull as *C. nobile*, which appears to be a highly coloured variety of *giganteum*, the leaves are spreading immediately above the bulb, very wavy, and the plant altogether hardly distinguishable from that of *C. zeylanicum*, figured in the *Botanical Magazine*, 2466, as *C. Careyanum*; but there is another form of *C. giganteum*, with upright, petiolate leaves, with a stout midrib and thin blades, varying very much in width. *C. podophyllum* has the appearance of a starved variety of this form.

Allied to these in habit comes the finest of the whole genus, well known as *C. Moorei*, figured and described also under the name of *C. Macowani*. It is quite distinct from all others in having a long, narrow neck above its large round bulb, crowned with thin, broad, lanceolate leaves, with a thick midrib, springing not in a line with the neck, but at a very obtuse angle. It has very large campanulate flowers, with broad petals, varying from pink to nearly white. The Glasnevin plant (*Botanical Magazine*, 6113) has the flowers darker pink than I have ever seen them, arising possibly from being grown out of doors.

We now come to the deciduous *Crinums* and those allied to them. These make three or four fresh leaves every year, which last for three years, dying down more or less completely in the winter, so that the three or four middle leaves are the middle part of last year's leaves, and the three or four bottom leaves are the base of the leaves of the year before. They all have campanulate nodding flowers, with the ends of the petals more or less rolled back, and with a more or less bright red stripe down the middle of each petal. I believe that all of these very beautiful plants are African. From *C. Kirki* (fig. 31) of Zanzibar to *C. longifolium* at the Cape, and *C. yuccæflorum* of the West Coast, a series of intermediate forms are found. One rather extreme form is Mr. Baker's *C. pauciflorum*, with two flowers with very long tubes, which I have from Lake Nyassa. I have two or three forms from the

Upper Zambesi, varying in the colour and width of the leaves and the length of the tube; and as the interior of Africa becomes better known, no doubt we shall obtain from thence a great variety of forms of this beautiful plant, which may be called varieties of one species, or a dozen or more different species, according to the fancy of the botanist who describes and names them. They all have nodding campanulate flowers, with the ends of the petals more or less rolled back, and with a more or less distinct purplish red stripe along the middle of each petal. Towards the West Coast of Africa are some forms with somewhat narrower petals, less rolled back, and with a very bright stripe. *C. scabrum*, from Brazil, and a plant that seems to be common in Jamaica, resemble these closely. I suppose that they have been brought from Africa by slave ships.

In the largest of the deciduous *Crinums* that I have—coming I believe from Natal or thereabouts—the bulb is 5 or 6 inches in diameter, the leaves 4 or 5 inches wide in the second year, more in the third year; a large head of nearly white, bell-shaped, nodding flowers, with the tips of the petals rolled back. I have had it under the name of *campanulatum*, which well describes it; and as the plant generally known as *campanulatum* is figured in the *Botanical Magazine*, 2352, as *C. aquaticum*, which describes it far better than *C. campanulatum* does, it might perhaps be as well to keep this name for the large kind. Another similar large bulb has shorter flowers, with much more colour. Mr. Baker thought the flower the same as that of *C. Forbesi*, but it is not the same as the plant at Kew of that name.

Another extreme form of the deciduous *Crinums* is *C. campanulatum* or *aquaticum*, a swamp plant, with cylindrical, very deeply channelled leaves, and flowers very like those of the flowering Rush (*Butomus umbellatus*). I will now only notice two interesting species with which I am only very imperfectly acquainted—*C. brachynema*, with small, beautiful, creamy white flowers, with round petals and very short stamens. The flowers are symmetrical, and it comes from India, so I suppose that its affinities are with the columnar, star-shaped group, although it has a round bulb; and *C. Balfouri*, which has a round bulb and flaccid, shining, strap-shaped leaves, so that no doubt its relations are African; but it has pure white flowers, and seems to differ rather widely from them.

#### LINARIA RETICULATA AUREO-PURPUREA.

THIS pretty annual Toad Flax is a useful addition to the flower garden where variety of colouring is an object. Well grown plants commence flowering directly they are put out at the end of May, and continue until quite the end of the summer. Like all annuals this plant loves the sun, but it has the advantage over others that it will flower fairly well without so much of it as some require to succeed at all. From one packet of seed as many as half a dozen colours or shades of colour can be had. It grows from 1 foot to 15 inches high. It may be grown in patches in the herbaceous border, in thick lines, or it answers well as an edging if pegged down once early in the season, afterwards being allowed to grow at will. We have it in this way as a margin to a Begonia bed, and it looks very attractive hanging loosely down over a raised edging on to the grass. The bright scarlet of *Vesuvius Begonia* adds to the appearance of the *Linaria*. It is admired by all who see it. As it seeds so freely it is a good plan to save seed annually from all the shades of colour. Some sow it where it is to bloom, but a better effect is produced by sowing the seed in sandy soil in a cold frame about the middle of March, afterwards pricking out the seedlings in a temporary sod-pit, where they grow strongly, and throw up numerous sucker-like shoots from the base which flower very freely in advance of those which are sown in the open. The inside-raised plants bloom so much earlier than those sown out of doors that any little trouble expended is a gain in the success of the plants afterwards. When intended for a row in front of any other bedding plant it is wise to support each with a small stake, which can be neatly hidden in the centre, tying the branches loosely to it. Heavy rains are liable to beat down the plants, as the number of flowers is somewhat heavy for the slender stems.—E. M.

#### THE VAPOURER MOTH.

IN the note to "C. C. E." last week on this moth there are some points which do not agree with my experience. It certainly feeds on almost everything, and is most difficult to get rid of when once established. I watched this caterpillar and its changes as a boy. Its beauty charmed me, and when a few years ago I found a few on a *Louise Bonne* Pear at the back of my house I allowed them to stay where they were. I bitterly repented this, as the following season they nearly ruined the tree, and were on many of the Rose trees as well. I cannot say I am without them now.

One way in which I largely reduced the numbers was to brush up the leaves of the tree with a long stick several times a day. This was generally followed by several falling to the ground, and as it was paving under the tree they were easily seen and destroyed. They fall very



lightly from the tree, more like a feather than a grub; this, I think, is owing to the quantity of hair on them. Then the following winter, when the leaves were off, I had every shred carefully overhauled, also every projection on the walls—both favourite places for the cocoons. The eggs have a red spot on the upper surface and a red ring round it. They seem to be invariably laid on the cocoon, and fortunately are not often more than two hundred in number. I have not noticed that the same batch hatches out many days apart. I burn all the eggs I can find, and it is a capital imitation of distant fire firing, as they pop continuously. The larger caterpillars, with the four whitish tufts on the

moult. If I see a dark reddish moth flying about a tree in the daytime I should suspect the presence of a female, and look carefully about for her.—Y. B. A. Z.

#### VIOLAS AND BEDDING PANSIES.

VIOLAS have certainly had an innings this season, and have scored largely as outdoor decorative plants. They began to make our gardens gay in April, some earlier, and they have continued in full bloom ever since, the long spell of wet weather affecting them very little.

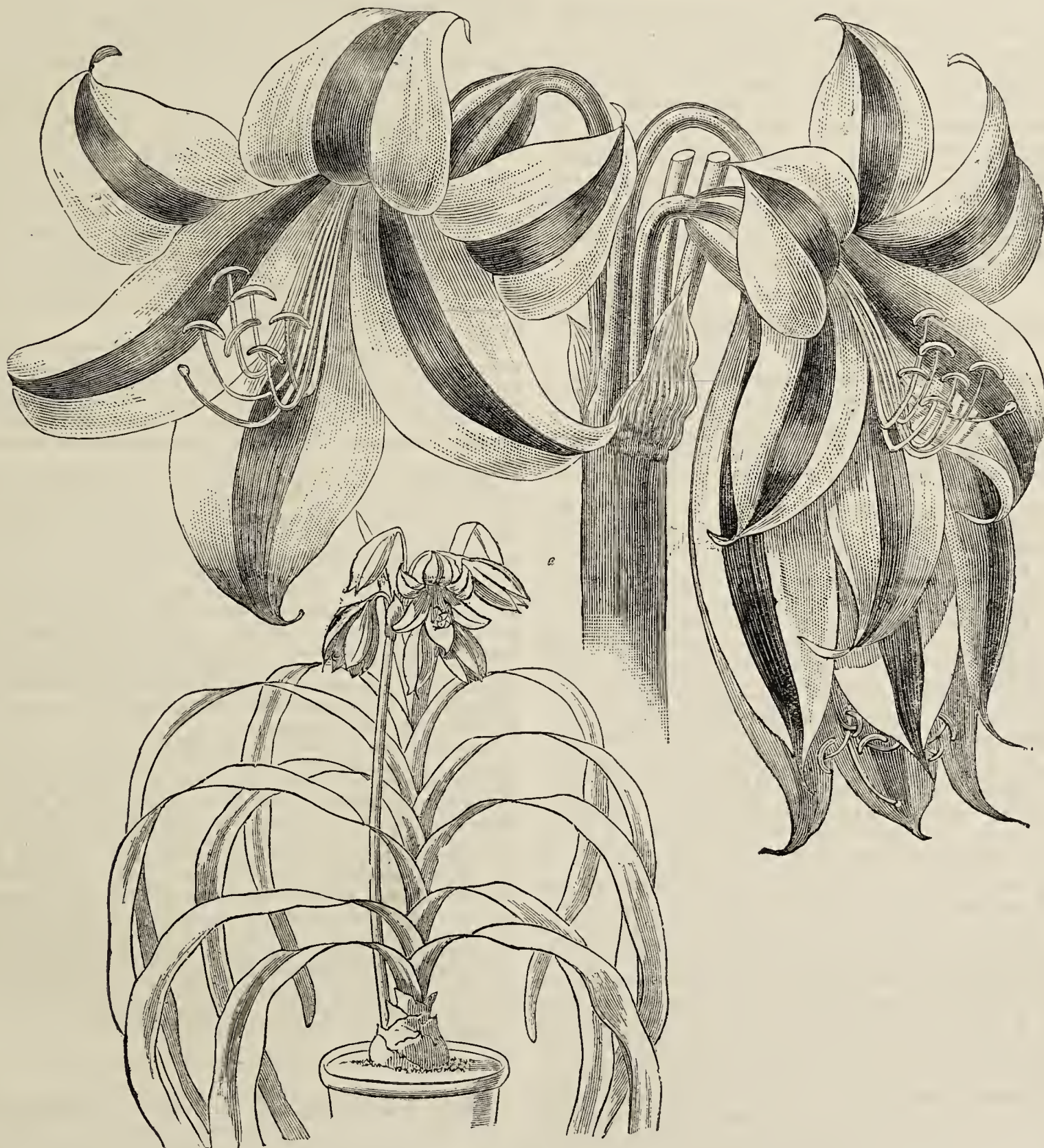


FIG. 31.—CRINUM KIRKI.

back, are females; the smaller, with yellow tufts, males. The chrysalids I have seen, and I have opened dozens of cocoons, are invariably a polished black. The male moth is a day flier, often called round London the cockney, and I have seen it flying in the City itself, hence this nickname. When at rest the white spot on each upper wing is very visible, and its well feathered front legs are stretched out on each side of its head. This latter—the head I mean—is furnished with a pair of beautifully fringed black antennæ. Its flight is very erratic. The female is a fat dull greyish brown, much the colour of the cocoon, and easily escapes notice. It rarely moves from the cocoon. The caterpillar is preyed on by a small long black ichneumon, and the cocoon of this is mottled black and white. I have never found more than one in each caterpillar, and it causes the death of the caterpillar before its third

In the Journal of last week a correspondent speaks of their success near London, and I can speak in terms of high praise of their well doing in a comparatively smoky town garden, surrounded by buildings, large factories, and workshops in a large midland manufacturing centre. All through the season from planting out time they have been in flower, latterly in very full bloom, the white kinds used being Countess of Hopetoun, Marchioness of Tweedale, and Mrs. Gray, very fragrant and profuse blooming. The yellows are Ardwell Gem, pale yellow; Bullion, a very free-blooming deep yellow; and a variety named Yellow Boy, with a stronger Pansy habit, and an immense bloom of good constitution, early to bloom and continuous, being now a mass of flowers. Two excellent town garden blues are to be found in True Blue, which has more blue colour in it than any other, and Holyrood, a rich violet purple



bedding Pansy of good constitution and very free blooming. Other kinds which do well in this town garden are Skylark, white with cerulean blue border; Countess of Kintore, The Mearns, Lady Amory, and Mrs. Pearce, a very free blooming light coloured variety which stands bad weather well. These are all standard useful cheap varieties for growing anywhere, in town gardens especially.

Violas and bedding Pansies can be easily propagated now by cuttings or taking off rooted side shoots and planting either firmly in a shady place. I say "firmly" because they are so likely to be thrown out or drawn under by worms if not firm in the soil. Planting out can be done in October or November, when the plants are strong and well established for standing the winter. Where autumn planting can be done I strongly recommend it for securing an early bloom in the spring and the plants going ahead.

For bedding purposes, free-flowering kinds which are both early and continuous are wanted such as I have named. Still there are many other beautiful varieties which well deserve culture, and a collection of the best kinds yield as much pleasure as any other kind of plant. A very fine white variety which is but little known has this season come under my notice, Countess of Wharnccliffe, sent out from Wharnccliffe Hall Gardens some three or four years since. It is snow white, free from markings, of compact habit, and very floriferous. In William Neil we have a distinct gain in its lovely pale rose tint and excellent habit. Lady Amory is very beautiful, rich plum violet with light top petals and excellent form; and Duchess of Fife, Beauty, Bridesmaid (Dean's), Cottage Maid, Bessie Clark, Mr. Charles Turner, Queen of Scots, Dean's Golden Gem, Mrs. Grant, and Master of Arts are all valuable acquisitions.—WM. DEAN, *Sparkhill, Birmingham*.

### DOGWOODS AND VIBURNUMS IN THE ARNOLD ARBORETUM.

AMONG exotic Cornels, as at present represented in the Arboretum, there are only two which possess ornamental qualities of a different character from those found in our native species, and which will repay cultivation in this country. There are some East Asian species which are not introduced, and a few others only imperfectly known, so that there is a chance that the number of good garden Cornels may still be enlarged.

The two foreign species which can well be added to our shrubberies are the White-fruited Dogwood, *Cornus alba*, and the so-called Male Dogwood or Cornelian Cherry, *C. Mas*. The first is a spreading shrub which, in good soil, grows to the height of 6 or 10 feet, and produces slender, recurved branches covered with bright red bark. In habit and in the general appearance of the foliage and flowers, and in the colour of the fruit, it bears a strong resemblance to our native red-stemmed Dogwood (*C. sericea*), and the only advantage it possesses over that species is in the brighter colour of its branches in winter. In this particular it is far superior to the American plant, and should replace it where the attempt is made to produce a bright effect in the shrubbery during the winter months. There is a variety of this plant occasionally met with in nurseries under the name of *C. sibirica*, which has deeper and brighter branches than any other plant which is hardy; and this, rather than the more common form, should be planted. Of the origin of this variety not very much is known; it may have been brought from Siberia or it may have appeared in some European nursery. The earliest mention of it is to be found in the catalogue for the year 1836 of the Loddiges, fifty years ago famous London nurserymen who maintained a large and very rich arboretum in connection with their business.

*C. alba* is widely distributed, and very common in Siberia and through Northern Asia, and is perfectly hardy. It is, like all the Cornels of this class, easily raised from seed or from cuttings made in the summer. It grows as rapidly as any of the native species, and can be mingled with them without danger of offending the most sensitive taste or shocking the susceptibilities of those critical designers of natural landscape who sometimes find the most beautiful garden plant out of place in the picture of sylvan beauty and quietness they would create, unless from harmony of outline and of character acquired by natural selection and long association it happens to accord with its surroundings.

The Cornelian Cherry is a small tree, reaching sometimes the height of 20 feet, with slender, rigid branches forming a head of rather formal outline. It is one of the plants which cover themselves with flowers in early spring, before any of its leaves appear. The flowers are small and bright yellow; they are arranged, however, in compact, many-flowered clusters, and these, being scattered along the whole length of the branches, give to the plant, in the early days of April, a very striking and beautiful appearance. It is the first of the shrubs with showy flowers to blossom, the flowers appearing almost a week earlier than those of the native Benzoin bush, which the Cornelian Cherry resembles in general appearance at that period—that is, the two plants cover themselves with yellow flowers before any of their leaves unfold. The Cornel is, however, a more showy plant; it grows to a larger size and the flowers are of a brighter yellow. There is not much to say, however, of this Dogwood, once its flowers are fallen. The fruit, which is half an inch long, or rather more, is elliptical and bright red, and, individually, is as handsome as a Cherry or a small Plum. But it is not produced in very great abundance, and the leaves so completely hide it that, practically, it makes no show at all, and there is nothing striking or remarkable about the foliage. One passes the plant without noticing it much, except in early spring, and its appearance leaves no lasting impression

on the mind. But this, after all, is perhaps a merit, for plants without striking individuality are sometimes the most valuable, as they are available for many purposes and combinations where more distinct subjects might prove disturbing elements in a composition. The Cornelian Cherry is, therefore, a good plant to use in a garden or a shrubbery where a bright show of flowers would be agreeable in the very earliest days of spring, and where, for the rest of the season a mass of pleasant objectionable foliage would not destroy any of those natural and restful conditions of scenery a good garden should be made to afford.

*C. Mas* is a native of central and southern Europe, and is one of the hardiest and most satisfactory of the trees of that continent which have been introduced into America. The wood has in all ages been celebrated for its strength, hardness, and density, and it is from this peculiarity that the Cornels obtain their name of *Cornus*, derived from the Latin word meaning a horn. The origin of the English name of Dogwood is not so apparent. John Parkinson, who wrote voluminously and learnedly about plants two hundred years ago, says that the name came from the fact that the fruit of the English species (*C. sanguinea*) was so bad that it was not fit to give to the dogs. In his time the English Cornel had been called Houndsberry Tree also, and Hound's Tree and Dogberry Tree, so, for some reason or other, its canine affinities seem to have been firmly settled in the popular mind.

The fruit of *C. Mas* is at least more valuable than that of the other species, although it appears to have been one of the coarse fruits which Circe threw with acorns and Beech mast to the companions of Ulysses after their transformation. When it is thoroughly ripe the flavour is sweet and not entirely disagreeable, and in Germany and other European countries it is used in making preserves, robs and liquors. It is not probable that it will ever find much favour in this country, or that the Dogwood will be planted for its wood, which by the ancients was much esteemed for the shafts of javelins, and in later days for the cogs of wheels and butchers' skewers.

There is a variety in gardens with light-coloured fruit, and others with brightly variegated leaves. These last, however, are feeble and ugly plants of no merit whatever, except in the eyes of those persons who delight in vegetable monstrosities and like to see a garden filled with "freaks" and converted into a vegetable dimc museum, useful enough, perhaps, to physiologists, but abhorrent to the lover of the beautiful.

Among the native shrubs which are not well known to gardeners there is a southern species of *Viburnum* which deserves a place in the garden. This is *Viburnum molle*, a plant which is widely scattered through the Southern States, and which just reaches New England on the Massachusetts islands of Nantucket and Naushon. In habit and in general appearance, in the shape of the leaves, in the flowers and in the fruit it bears a strong likeness to the Arrow-wood (*V. dentatum*). It is not a handsomer or in any way a better plant than that familiar species, and its value lies in the fact that it flowers two weeks or more later than the other *Viburnums*. It serves, therefore, to prolong the flowering period of one of the most useful and beautiful of the groups of hardy shrubs, and Mr. Dawson is preparing to get together a large supply of young plants, with a view of introducing them on a considerable scale in some parts of the Arboretum.

A word about *V. dilatatum* will not, perhaps, be out of order here. The plants have passed safely another winter, and have flowered more profusely than ever before. There can be little doubt that this is a perfectly hardy plant, and that it has the capacity of adapting itself to new surroundings. It will only be planted by people who desire to make their gardens beautiful in the late autumn and early winter; in habit and in foliage it is not better, and indeed not so good as *V. dentatum* or the species which has just been mentioned. The flowers, although abundant enough, are much smaller, and they fall almost as soon as they open; and this Japanese species has really little to recommend it as a flowering plant. But the fruit is splendid, brilliant, abundant, and long-hanging. There is no shrub of recent introduction that equals it in the beauty of its fruit, and there is hardly one among the innumerable varieties found in this collection which surpasses it. This certainly is one of the plants which need to be known only to become one of the most popular.—(*American Garden and Forest*.)

### THE NEWCASTLE HORTICULTURAL SHOW.

#### A CALAMITY.

INSTEAD of publishing in our present issue a report of what we hoped would be a successful show at Newcastle-on-Tyne, we have with much regret to record a calamity. Of this we had telegraphic information just in time for insertion in our last issue. As there stated, the Show was to have been held on August 26th, 27th, and 28th, when a display of unusual magnitude and excellence was anticipated, but a raging storm swept away the tents. The only consolatory thought that arises in connection with the great misfortune is that the storm did not come on Thursday instead of early on Wednesday morning, as if it had the results, serious as they were, would have been still more lamentable.

Not only our northern but our southern readers—indeed, horticulturists everywhere—will join us in a strong expression of sympathy with the Newcastle Committee in their trying ordeal, also in the expression of a hope that the old Society, which has



done so much to foster the higher and extended cultivation of plants, flowers, fruits, and vegetables, will be enabled by wealthy and public-spirited citizens to rise, phoenix-like, from its ashes, and continue to exert its good influence in future years. The following report of the gale and destruction is taken from the *Newcastle Chronicle*:—

"This morning (Wednesday, 26th August) the tents in the Leazes Park, in which the annual Exhibition of the Newcastle Flower Show was to have been opened, were blown to the ground during the gale of wind which prevailed during the early hours of the day. A meeting of the Council was subsequently held, and after some discussion it was decided to abandon the autumn Show for this year. This will doubtless be a great disappointment to the many thousands who annually visit this Show, which has been increasing in popularity year by year. The Committee had no option but to decide as they have done. A visitor to the Park this morning at ten o'clock would have failed to find the huge marquees which, it was hoped, would by that time be covering the beautiful flowers and plants usually forwarded to the Show from all parts of the northern district. At that time, on the immediate spot on which the Show usually stands, only a number of pegs of wood driven into the ground, broken and whole tent poles, pieces of canvas rolled up, and broken ropes and electric wires were to be seen. The Exhibition ground this year was prepared on a different plan from that of previous years. It was of quadrangular shape, and the Committee anticipated that they would have been able to show the plants, flowers, and fruit to greater advantage than heretofore. All the arrangements were completed—the engine and electric apparatus laid, the fireworks erected below the bandstand, the tents put up, the tables put together, the refreshment tent all ready, and the bands engaged. Many of the large coniferous plants had been placed on the stands last night. The valuable smaller plants and specimens of fruit and flowers are usually placed in position between 9 and 10 o'clock on the morning of the opening day, and thus the tents were not filled with the exhibits when they collapsed. The park keeper, Mr. John Wilson, informs us that a terrific gale blew shortly after five o'clock, and, fearing that damage would be done to the tents, he proceeded to the spot, only to find his fears realised.

"The tents were erected in the usual place at the west end of the park. This spot is the most elevated in the district, and being an open space, is subject to winds from every direction of the compass. The wind blew with great force from the west. This portion of the park is exposed to this wind, particularly as the ground is higher than the house-tops lying to the westward of the park. Mr. Wilson found the tents lying slightly to the east, many of the pegs being torn up, and some of the ropes being snapped. Two policemen and one or two of the park men were doing their utmost to keep the tents from going over altogether, by driving in extra pegs of wood and by placing here and there extra rope supports. The park keeper, fearing that even these efforts would prove of no avail in keeping the marquees up, very wisely gave orders to have all the large plants laid flat on the ground, so that in the event of a collapse of the tents they would sustain little damage. This was accordingly done. Messrs. Jos. Robson & Sons, nurserymen, of Hexham, had their exhibits of coniferous and other plants at the north end of the tents; and Mr. W. J. Watson, of Fenham Nurseries, Newcastle, had a number of valuable exhibits at the west end of the tents. As the last-named gentleman's plants were in the most exposed position, they were attended to first, and were placed as much out of danger as possible. The exhibits of Mr. Robson, and those sent by Messrs. William Fell & Co., nurserymen, of Hexham, were next attended to. The noise made by the flapping of the canvas and the straining of the ropes and poles was something terrific. All that could be done was done to keep everything taut. The efforts of the men, however, proved futile. First one rope gave way, then another. A portion of the canvas broke loose from the ropes, and almost immediately it was torn to ribbons. As soon as the wind got a hold underneath the canvas, the men cleared out from the marquees, as they expected every moment that the whole would come down with a crash. The wind if anything increased in fury, and the ropes continued to snap. The west end portion of the huge erection was the first to give way, the north-west corner shortly followed. Then the whole of the tents swayed backwards and forwards for a little while, and fell in a heap to the ground.

"The fall of the tents naturally exposed the wooden shed covering the engine used to drive the electric apparatus, which was situated in the centre of the quadrangle. The roof became quickly loosened, and was blown off in fragments. A great quantity of the canvas was torn to pieces, and nearly the whole of the ropes and electric light wires were broken. Armstrong's large refreshment tent, erected at the north end of the marquees, stood the strain of the wind pretty well, and damage was prevented to this tent by the canvas being lowered. The whole of the erections were levelled with the ground before half-past seven. Shortly after men were set to work, and the *débris* was cleared away as quickly as possible. Many of the plants were of course damaged through the fall of the poles, and we understand Mr. Watson is the greatest sufferer in this respect. The work of clearing away was carried on under most trying circumstances.

"Some of the members of the Committee naturally anticipated that some damage must have been done to the marquees during the early hours of the morning, and several of them were early on the spot. At 9.30 nearly the whole of the members of the Council of the Society were assembled on the ground, and it was decided to hold a meeting to decide what should be done in regard to the holding of the Show. The

Mayor of Newcastle (Mr. J. Baxter Ellis) presided, and amongst those present were Messrs. E. Wilson, G. Huntley, A. M. Loades, N. Armstrong, W. J. Watson, G. J. Wilson, W. F. Fowkes, P. Hastie, T. G. Winship, George Nesbit, Balfour, Batey, Hepburn, J. B. Garland, and the Secretary, Mr. J. J. Gillespie. A long discussion ensued, and various suggestions were put forward. Ultimately it was resolved that, 'Owing to the tents having been totally destroyed by the gale of this morning, the Show for this year be abandoned.' It was also decided that notices intimating the fact be posted up in the city, and that instructions be forwarded to the various railway stations. The notices to the railway stations, however, would not be in time to stop many excursionists coming to the town, some of whom would be in the city before the Committee had made its decision. Word was at once sent to Mr. J. H. Amers, who was engaged to conduct the Royal Exhibition Band, and the band of the 1st Northumberland Artillery, in their performances of selections of popular music, cancelling the engagements.

"The fireworks erections were also damaged. Messrs. Brock & Co. of London had been engaged to give pyrotechnic displays on each of the three evenings of the Show. The decision of the Committee, and the damage done, practically made the 'scenic' fireworks useless, and they were destroyed before noon behind the park keeper's house at the west entrance to the park. During the whole of the morning the work of clearing was going on. Refreshments were being packed up; ropes, canvas, and woodwork being sorted, and plants being made ready for conveyance from the park. A number of vans and vehicles filled with plants and flowers arrived on the ground during the morning, but were, of course, returned at once to their respective destinations.

"Expressions of sympathy with the energetic Committee will doubtless be general in the present lamentable state of affairs. The Incorporated Botanical and Horticultural Society of Durham, Northumberland, and Newcastle-on-Tyne is conducted only for the public good. In previous years the Society has been extremely unfortunate in respect of the weather, which had been wet, and which naturally affected the attendance at the shows so seriously that the funds were considerably reduced. On two or three occasions there was a deficit, but thanks to the generosity of certain gentlemen, and to the untiring energy displayed by the present Mayor of Newcastle and the members of the Committee of the Society, the deficits were made good, and each year the Show has made a fair bid for financial success. At each show the entries have been numerous, and very considerable expense was incurred to make the exhibitions attractive to all. But the weather has been persistently against the promoters, and the present difficulty must prove very distressing to the members of the Committee. Probably they will meet with the public support they deserve. Mr. J. B. Ellis, at the last annual luncheon, said: 'The Committee had had serious difficulties to overcome, but he had the satisfaction of knowing that it was his privilege to preside over a Committee of gentlemen who were full of energy, pluck, and determination, and who would not know what it was to give in. In spite of the fact that the last autumn (1889) show left them with a serious deficiency of nearly £100, they had the satisfaction of commencing the present Show (1890) with a surplus in hand. He thought the Society deserved the support of all the people of Newcastle, because there was no doubt that it was of an educational and elevating nature, and was accomplishing a great work in which the people were deeply interested.' The words of His Worship aptly described the object of the Society, and the hard work of the Committee in the past. Under the present circumstances the difficulties of the Council must have infinitely increased, and an even greater amount of energy will have to be put forward in the future to give the Society a good position. They will doubtless not appeal in vain.

"Without doubt the autumn Show, which was to have been held, would have been the most successful from a botanical and horticultural point of view ever held by the Society. The various divisions of plants, table decorations, cut flowers, fruit, and window plants had a total of nearly 100 classes, each having an average of about ten exhibitors, showing some thousands of exhibits. Such of the exhibits as arrived on the ground, and were seen by competent judges, were pronounced to be some of the finest forwarded for competition.

"STATEMENT BY THE MAYOR.—His Worship the Mayor of Newcastle (Mr. J. Baxter Ellis), President of the Committee, having been interviewed by one of our representatives, stated that the members of the Committee were completely broken down at this, the greatest calamity that has befallen them. A meeting was convened, presided over by the Mayor. It was found impossible to do anything with respect to the flower Show, and arrivals coming in during the morning were ordered to be returned to the railway station, and forwarded to their owners. The first thought, however, was as to what could be done for the members of the Society and ticket holders, and it was thought there should be a fireworks display and music, but after some consultation, it was found that the gale was still blowing too strong to allow of this, especially as so much damage had been done. This calamity places the Society in a serious state financially, as there are large claims which must be met. The general feeling is that there is nothing for it but to disband the Society. Of course it goes without saying that it will be a source of deep regret to do anything of the kind, but it is asked what can be otherwise done under the circumstances. The Committee, Chairman, and Secretary have fought against calamity after calamity year after year, until at last the greatest has overtaken them, and completely prostrated their efforts. It will be now for the general public to declare whether the assistance so urgently needed to tide over the financial difficulties which have so unexpectedly arisen shall be



forthcoming, and whether the Show and its attractions shall continue in the future."

The disbanding of the Society would be felt as a deplorable loss, not by northern horticulturists alone, but generally, as its exhibitions are regarded as important events by the gardening community. We hope the greater calamity indicated will be averted.

## HORTICULTURAL SHOWS.

CALNE.—AUGUST 18TH.

FINE weather favoured the annual Exhibition of the Calne and District Society, and this being held as usual in the beautiful park at Bowood, the double attraction was the means of bringing together a large number of appreciative visitors. Although there was room for improvement in some of the classes, the Show on the whole was a highly creditable one, nurserymen, professional gardeners, amateurs, and cottagers all contributing to the success.

The best collection of stove and greenhouse plants was shown by Mr. J. F. Mould, Pewsey; Mr. G. Smart, gardener to Mrs. Harris, Calne, being a good second. With six fine-foliaged plants Mr. Smart was well first, his exhibit including a grand specimen of *Davallia Mooreana* and a good *Cycas revoluta*. Mr. Mould was second, and Mr. Perry, gardener to Captain Spicer, Spye Park, third. Mr. Smart was well first for a capital lot of exotic Ferns, and was successful in several other plant classes. The principal prizes for Fuchsias went to Messrs. Cray of Frome, while Mr. Cook, gardener to Major Heneage, Compton Bassett, was first for a well-grown lot of Begonias, and took prizes in several other plant classes. Mr. J. Wilcox, Quemerford, had the best Zonal and other Pelargoniums, Mr. Perry also showing well.

There was a marked improvement in the fruit classes. Mr. Cook was well first for a collection, also having the best Muscat Grapes and the finest Peaches, Nectarines, Plums, and Pears in the various classes provided for these fruits. Mr. Perry took the second prize for a collection, and was also successful in several other classes. With fine well coloured bunches of Gros Maroc Mr. Nelson, the gardener at Bowood, was well first in the class for any variety of black Grape. Other prizewinners with fruit were Messrs. Smart, F. C. Henby, F. E. Redman, W. Powney, and Henry Carter.

Vegetables generally were well shown, Tomatoes being a noteworthy feature. With these the Bromham Fruit Company were well first, showing a very good dish of Ham Green Favourite. Mr. Perry was first for a collection of vegetables, the second prize in this closely contested class going to Mr. Smart.

Messrs. B. S. Williams & Co., Upper Holloway, sent a fine bank of Orchids and various other flowering plants, with Palms, Ferns, and fine-foliaged plants to show them off to advantage. This non-competitive group was highly commended by the Judges.

STREET, SOMERSET.—AUGUST 24TH.

STREET is one of the few towns that can boast of having just held its twentieth annual flower Show, and probably few societies have done more to promote and improve horticulture in its immediate neighbourhood, more especially among cottagers and amateurs. The Show is never a large one, but it is of great excellence, and very creditable to all concerned.

Groups of plants arranged for effect are the principal feature in the display, and in this class Mr. Edwards, gardener to James Clark, Esq., Street, was well first. The arrangement was somewhat formal, but the superior quality of the plants and good finish gave him the premier position. The second prize went to Mr. W. Gale, gardener to H. S. Bailey, Esq., Glastonbury, the centre of the group in this case being faulty, while the third prize was taken by Mr. G. Ford, gardener to F. J. Clarke, Esq., Street, for a light though somewhat dull combination. In the latter group were included two strong plants well in flower of the strikingly beautiful *Lilium auratum virginale*. For two flowering plants Mr. Edwards was easily first, having a well flowered specimen of *Allamanda Hendersoni* and a fairly good *Bougainvillea glabra*.

There was good competition in this class, and also in that provided for two fine-foliaged plants, the gardeners to Mr. A. Colson, H. S. Bailey, Esq., and F. J. Clarke, Esq. also showing well. Tuberous Begonias are always remarkably well shown at Street, professional gardeners, amateurs, and cottagers all cultivating them most successfully. The first prize in the class open to gardeners was taken by Mr. F. Edwards, who had six specimens that would have won a prize anywhere. Miss Ansell was a good second and Mr. Ford third. Remarkably good, also, were the six specimens of Zonal Pelargoniums sent by Mr. Colson, Glastonbury, and which easily won the first prize in a well filled class. Miss Ansell was first for Fuchsias and Mr. Edwards second.

Cut flowers, fruit and vegetables were all shown in goodly numbers, the hardy fruit, notably Apples and Plums, being particularly good in quality. It should be added that Mr. A. D. Porter is the energetic Secretary, and that there are no signs of any waning popularity in respect to the Society. The Grange, kindly lent by Mr. Clark, is very appropriate and convenient for a horticultural meeting, very few societies being more fortunate in this respect.

KINGSWOOD AND WEST GLOUCESTERSHIRE.—AUGUST 26TH.

AFTER the rather long interval of twenty years this Society has been resuscitated and placed on a new footing, but the Committee were most

unfortunate in their selection of a day for holding the Show, the weather being altogether against anything of the kind. A liberal prize list had been prepared, and it was no fault of the Honorary Secretaries, Messrs. F. H. Jullion and J. Stubbs, if a pecuniary failure has to be chronicled. For a first attempt the Show was a highly creditable one, local growers more than holding their own in many of the classes. The first prize of £10, offered for twelve flowering plants, was well won by Mr. Cypher, Cheltenham, who had fresh well-flowered specimens of *Ixora Fraseri*, *I. amabilis*, *I. regina*, *Allamanda nobilis*, *Clerodendron Balfourianum*, *Stephanotis floribunda*, *Phenocoma prolifera* Barnesi, *Erica Austiniana*, *E. tricolor vera*, *E. Marnockiana*, *Statice profusa*, and *Bougainvillea glabra*. Mr. Mould, Pewsey, was second, his best plants being *Erica Eweriana*, *E. Marnockiana*, *Allamanda Hendersoni*, and *Dipladenia amabilis*. Mr. Cypher was also easily first for eight fine-foliaged plants, these including two good Kentias, and Crotons Thompsoni, Newmanni, and Sunset, all beautifully coloured. Mr. A. J. Hancock, gardener to A. W. Summers, Esq., had a collection of healthy plants, the best of which were *Cocos Weddelliana*, *Croton Youngi*, and *Alocasia Lowi*, and was awarded the second prize, the third going to Mr. Mould. In a class for six flowering plants, Mr. W. Rye, gardener to Captain Belfield, was easily first, having large well-flowered specimens of *Allamanda nobilis*, *Stephanotis floribunda*, *Bougainvillea glabra*, *Ixora Williamsi*, *Anthurium Andreanum*, and *A. ferriense*. The same exhibitor was also well to the front with six fine-foliaged plants, these comprising *Kentia Forsteriana*, *Cycas revoluta*, and Crotons majesticus, pictus, and undulatus in good health and colour. In the open class for eight Ferns Mr. Rye was again first, staging grand specimens of *Todea superba*, *T. pellucidum*, *Adiantum concinnum latum*, *A. trapeziforme*, *A. gracillimum*, *A. cardiochloena*, *Davallia Mooreana*, and *Davallia elegans*. Mr. W. Coombes, gardener to J. W. Kingdom, Esq., was second.

There were two classes for six Orchids, Mr. Cypher taking the first prize in that open to nurserymen with beautifully flowered plants of *Oncidium macranthum*, *Cattleya Gaskelliana*, *Dendrochilum filiforme*, *Odontoglossum grande*, *Epidendrum prismatocarpum*, and *Odontoglossum Harryana*. In the other instance Mr. J. Crispin, Bristol, was first, having *Cattleya Gaskelliana*, *Aerides Lobbi*, *Cypripedium longifolium*, *Dendrobium Dearei*, *Cattleya Harrisoni*, and *Cattleya Leopoldi* in good condition. The best Zonal Pelargoniums were staged by Mr. W. Coombes, Mr. A. Garland being second. Tuberous Begonias were well shown by Messrs. W. Clifford and W. Coombes, who were placed first and second respectively. There were also a considerable number of other classes for plants and cut flowers, the competition in most of which was close and good.

Fruit was shown creditably, the entries in some of the classes being very numerous. The best collection of eight dishes was shown by the gardener to Captain J. G. Bayley, who had fairly good Muscat of Alexandria and Black Hamburg Grapes, and Blenheim Orange Melon, Mignonne Peaches, Pine Apple Nectarines, Shipley Apricots, Beurré Giffard Pear, and Orleans Plum in good condition. Mr. G. Garraway, Bath, was second, and Mr. E. Hall third. With three bunches of black Grapes Mr. W. Marsh was first, having very good Alicante, and in a corresponding class for white Grapes Mr. J. Dole was easily first for some of the best bunches of Buckland Sweetwater seen this season. Peaches, Nectarines, Melons, Plums, Apples, and Pears were all well shown, and there was a capital lot of vegetables to be seen. The cottagers made quite an extraordinary display of pot plants, cut flowers, hardy fruit, and vegetables.

## SANDY (BEDS) HORTICULTURAL SOCIETY.

THE twenty-third annual Exhibition of this flourishing midland Society was held at Sandy on Friday last, under somewhat adverse circumstances, as the advent had been extremely unpropitious, the site of the Show having to be changed from its usual place in Sandy Park on account of the death of its late proprietor, and the weather of the preceding days being very hostile to preparations for a great rural gathering, as some twenty tents had to be raised and fitted in the intervals between alternating tornadoes and downpours of rain. However, the perseverance of the Committee and the well known energy of Mr. W. Green, the Secretary, had their reward in a good show in all the departments of horticulture, poultry, birds, rabbits, and dogs, and as the morning opened with a rising barometer and the day proved much more favourable than its predecessors, there was a large and appreciative attendance. The change of site to the cricket field proved probably of an advantage to the visitors, and not nearly so detrimental to the Show as the prophets forebode.

In the plant department Mr. Finch, gardener to J. Marriott, Esq., Coventry, took the leading position in the open class for ten stove and greenhouse plants, his collection being perhaps one of the finest which has ever been got together, all his specimens showing high cultivation, and being equally perfect in flower and training. They consisted of *Bougainvillea glabra*, *Sobralia macrantha*, *Stephanotis floribunda*, *Ixora Prince of Orange*, *Williamsi*, *Duffi*, and *Fraseri*, *Lapageria alba*, and *Ericas Irbyana* and *Marnockiana*. Mr. Rabbitt, gardener to General Pearson, C.B., The Hazells, Sandy, was a creditable second, having a fine *Bougainvillea arborea*, also *Lapageria rosea* and *Allamandas cathartica* and *Hendersoni* in good form. Mr. Redman, gardener to J. H. Goodgames, Esq., Eynesbury, Hunts, was third. Zonal Pelargoniums are usually attractive at this Show, and serve to brighten up the foliage plants. Mr. Redman was first with twelve fine bright and well flowered plants in the open class; and Mr. Rabbitt second. For six foliage plants Mrs. Astell of Woodbury Hall was first and Mr.



Redman second. For six stove and greenhouse Ferns Mr. Rabbitt was first and Mrs. Astell second. For six Zonal Pelargoniums in the amateurs' class Mrs. Astell was first; and for six variegated ditto Mr. Rabbitt won. Six Cockseombs Mr. Cook, gardener to Colonel Stuart, Tempsford Hall. Six Coleus Mr. Redman. Three Lilioms Mr. J. H. Empson, gardener to the Hon. Mrs. Wingfield, Ampthill House.

For a group of plants arranged for effect Mr. Redman was placed first, Mr. Rabbitt being a close second. Cut flowers were largely shown, and the herbaceous classes made a grand display. For twenty-four bunches of herbaceous and bulbous flowers, strictly hardy, in the open class, Messrs. Burrell & Co., Cambridge, were first with large and showy clusters, *Rudbeckia purpurea*, *Bocconia cordata*, *Montbretia Gerbe d'Or* and *crocosmæflora*, *Helianthus multiflorus maximus*, *Echinops ritro*, *Chrysanthemum latifolium*, and *Gladiolus Lemoinei* being conspicuous. Messrs. Laxton Bros., Bedford, were second with somewhat smaller but very neatly set up bunches, including *Plateodon grandiflorum*, *Eryngium planum*, and *Helianthus grandiflorus Soleil d'Or*; Messrs. Paul and Son, Cheshunt, coming third. For twenty-four *Gladioli* (open) Messrs. Burrell & Co.'s stand, consisting mostly of M. Lemoine's brilliant hybrids, took the lead. For forty-eight cut Roses, not less than twenty-four distinct, in the open class Messrs. Paul & Son were placed first with a stand of large and fresh looking blooms, in which Mrs. John Laing, A. K. Williams, Marie Finger, Beauty of Waltham, Her Majesty, J. S. Mill, Marshall P. Wilder, Dr. Hogg, H. Schultheis, Etienne Levet, Marie Rady, Chas. Lefebvre, Paul Neyron, the new Teas Nardy and Ernest Metz, and their own new seedling T. B. Haywood, were the most striking flowers. Messrs. Burch, Peterborough, were second with good flowers of Her Majesty, Fisher Holmes, Catherine Mermet, Chas. Darwin, Merveille de Lyon, Innocente Pirola, Anna Ollivier, Ulrich Brunner, and Earl Dufferin, Messrs. Burrell taking third place with smaller but good blooms. For twenty-four Roses, not less than twelve distinct, in the class from which nurserymen were excepted, E. B. Lindsell, Esq., Hitchin, was first, having in his stand fine blooms of Duchess of Bedford, Mrs. John Laing, Her Majesty, Catherine Mermet, Général Jacqueminot, Amazone, C. Kuster, Victor Verdier, Baroness Rothschild, and Marie Rady. Mr. Geo. Moules, Hitchin, was second.

For twenty-four Show Dahlias in the open class Mr. Geo. Humphries of Chippenham closely contested the premier position with Mr. A. Rawlings of Romford, Mr. Humphries securing first place with grand flowers of Royal Queen, Mr. Glassecock, Queen of the Belgians, Harry Keith, R. T. Rawlings, Thos. Hobbs, Mrs. Gladstone, Nellie Cramond, Burgundy, Vice-President, Crimson King, Mr. Humphries, Ovid, Maud Fellowes, Lustrous, Mrs. Geo. Rawlings, Willie Garratt, Mrs. Kendall, Rosetta, Mrs. D. Saunders, Jas. Stephens, Earl of Ravensworth, Mrs. Dodds, and Geo. Barnes (self); Mr. A. Rawlings being second, and Mr. J. Myers, gardener to the Earl of Sandwich, Hinchinbrook House, third. Mr. Rawlings also received a first-class certificate for his new orange buff seedling Mrs. Lewis Standberg, a welcome addition to this class. For twelve Show Dahlias (nurserymen excepted) Mr. G. Arnold of Leighton Buzzard was to the front; Mr. W. Bourne, Cambridge, second, and Mr. Redman third; whilst for ten Zinnias Mr. A. Burgess of Wimpole Hall Gardens, Cambs, was first, as also for twelve *Truffaut's* and twelve *Chrysanthemum Asters*; Mr. C. Bright, Cambridge, securing first for twelve African, and Mr. E. T. L. Smith, Sandy, for twelve French Marigolds. Pompon Dahlias were tastefully set up by Messrs. Paul & Son, Mr. G. Humphries, and Messrs. Burrell, who were placed in the order named.

The show of fruit was one of the largest and best yet seen at Sandy, the classes for Grapes, Melons, Peaches, Nectarines, and Plums all being well filled. The faulting generally was in the want of finish of most of the Grapes, arising from the continued absence of the sun's rays; but there were notable exceptions in some of the leading stands. For a collection of eight distinct kinds of fruit (Pines excluded) Mr. Jas. Linneus of Walkem Hall Gardens took the lead with good examples of Madresfield Court and Muscat Grapes, Bellegarde Peaches, Golden Queen Melon, Stanwick Nectarines, Moor Park Apriots, Apple Duchess of Gloucester, and Plums; Mr. J. Anning, Welwyn, coming second; Mr. C. Forbes, gardener to E. B. Foster, Esq., Anstey Hall, Cambridge, third; and Mr. R. Carter, gardener to Capt. Duncombe, Waresley Park, Hunts, fourth. For a collection of six varieties Mr. Burgess was first, Mr. Redman second, and Mr. Geo. Cook, gardener to Col. Stuart, Tempsford Hall, Beds, third. For two bunches of Black Hamburg Grapes Mr. W. H. Murfin, Great Staughton, Hunts, was first with medium-sized bunches, the berries very well coloured and fine; Mr. Burgess came second, and Mr. J. A. Baker, St. Ives, third. For two bunches of Black Grapes (Hamburgs excluded) Mr. Empson, gardener to Mrs. Wingfield, Ampthill House, took the first prize and a silver medal offered for excellence of culture for two very beautiful and symmetrical bunches of Madresfield Court, highly finished; G. E. Foster, Esq., Brooklands, Cambridge, being second; and Mr. G. D. White, gardener to Sidney Stanley, Esq., Longstowe Hall, Cambridge, third. For two bunches of Muscat of Alexandria Mr. Anning, Mr. Linneus, and Mr. Forbes were placed in the order named, all showing fine bunches, but slightly wanting in finish. For two bunches of white Grapes (Muscats excluded) Mr. White was first, Mr. G. E. Foster second, and Mr. Empson third, all showing Foster's Seedling in good form and finish. Mr. Linneus was first for six fine Noblesse Peaches, and again for Nectarines and outdoor Figs. For green fleshed Melon Mr. Empson took first place amongst about twenty specimens with Hero of Lockinge, and also for scarlet fleshed with Woolston Scarlet Gem. Mr. Allis, gardener to Major Shuttleworth, Old Warden Park, received high commendation

for two well-finished bunches of Lady Downe's Seedling Grape not for competition. For a collection of dessert Apples Mr. Allis was first, showing a well-kept dish of fruits of 1890 unnamed.

Vegetables, the staple of Sandy, were as usual amply and well represented both in the amateur and market garden divisions. Potatoes were especially fine. For a basket of twelve varieties of vegetables in the gardeners' and amateurs' class Mr. W. Pepper, Welwyn, was first, Mr. H. Ridgewell, Cambridge, a good second, and Mr. F. Faust, Hertford, third. For a basket of six varieties Mr. W. Bourne, Cambridge, came first, Mr. R. Carter second, and Mr. White third. For a collection of Potatoes in the same division Mr. Simkins, Shillington, Beds, was first with splendid examples of Sutton's Seedling, Satisfaction, Best of All, Reading Russet, Chancellor, and The Dean. Mr. W. Bourne was second, and Mr. W. H. Wootton, Thornly, third. For twelve white kidney Potatoes Mr. Simkins was again successful with Satisfaction, and Mr. Wootton second with Snowdrop. For twelve white rounds Mr. Simkins was first with Windsor Castle, for seventeen coloured kidneys with Reading Ruby, and for twelve coloured rounds with The Dean. This lot was altogether probably the finest exhibition of Potatoes as yet got together this season, all the specimens being nearly perfect. For three dishes of Peas, the prizes being offered by Messrs. Chas. Sharpe and Co., Sleaford, for their varieties, Mr. Rabbitt was first with Sharpe's Queen (very fine), Sir F. Millbank, and Triumph. Onions were not in the best condition, being small in size and insufficiently ripened.

In the market gardeners' class Mr. W. Cousins of Cliff-a-Hoo was first for a collection of Potatoes, the specimens being very large and rather coarse. Mr. H. Ridgewell was second with a very even collection. Mr. R. M. Simpson of the Three Counties Asylum, Arlesley, had the best collection of Onions, good for the season. The special prizes offered by Mr. F. Yates, seedsman, Nottingham, were taken by Mr. F. Davison, Sandy, for Cucumbers; Mr. H. Ridgewell for Cauliflowers, and Mr. R. Preece, Sandy, for Carrots. For three new varieties of Potatoes not more than two years in commerce, Mr. Ridgewell was first, showing Laxton's Victorious, very fine kidney; Hughes' Pink Perfection, and Sutton's Windsor Castle. Carrots were very good, and of fine colour, the best coming from Mr. C. Quince of Sandy.

A tent was devoted to table decorations, and here it is hardly possible to criticise, as there is diversity and fashion in taste. The first prize went to Miss Pearson of The Hazells for a very showy table, orange and yellow predominating; but the second prize table, set out by Miss Richardson of Sandy Rectory, and consisting mainly of pink Ivy-leaved Pelargoniums and *Ampelopsis Veitchi*, was softer, and showed much taste.

Messrs. Cutbush & Sons of the Highgate Nurseries, had a beautiful group of ornamental plants not for competition, and deservedly received very high commendation.



#### HARDY FRUIT GARDEN.

**RASPBERRIES.**—As soon as these have finished ripening their fruit the old bearing wood must be cut away close to the ground to give the young wood every advantage possible in the way of sun and air to ripen it for the next season's fruiting. All weak growths of the current year should also be removed at the same time, unless they are required for fresh plantations. If the young wood has been tied up hitherto it should now be left loose for the above reason. All mulching material may be cleared off, also any weeds that may have gained a footing, leaving the crown clean.

**FIGS.**—Take out all weak shoots, and any that are not required for next year's fruiting, cutting them off close to the main branches, and laying in the sturdiest and best placed shoots. Plenty of room must always be left between the young shoots that are secured to walls. Abundance of light and air are essential at all times for Figs in order to ensure good crops, and any shoots that extend beyond the top of the wall should be left entire, as these often give the best fruit and the most also. They grow short-jointed and firm in such positions, and if protected in the winter from the frost will not fail to fruit next season. The second crop of Figs rarely ripens outside in this country, and then only in the warmest places, and during the best seasons. The young wood should, therefore, be laid in full length without any stopping, as next year's crop comes at the points of this season's growth.

**APPLES AND PEARS.**—Fruits of these for show must now have every encouragement in order that they may finish off well. Expose them to all the sun and air possible, fasten them so that they may not get damaged by wind, and protect them from small birds, which often make holes in them a long time before they are ready for gathering. If the weather is dry a copious application of liquid manure occasionally will aid their swelling considerably. The earliest varieties will now be ripening fast, and should be gathered a few at a time and placed in the fruit room to finish, thus prolonging their season as much as possible. The Red and White Juneatings, Astrachan and Early Margaret Apples,



with Doyenné d'Été, Citron des Carmes, Beacon, and Jargonelle Pears are the first that require attention.

**PEACHES.**—Trees of the early varieties from which the crops have been gathered should be carefully looked over in order to remove all superfluous wood, and give the remainder every chance to mature well. If there is any trace of red spider or thrips syringe the trees thoroughly with softsoap at the rate of 2 ozs. to the gallon of water, working the syringe so as to reach the under side of the leaves. The best time for this operation is during the afternoon as soon as the greatest part of the sun heat is over. The solution should not be rinsed off, but allowed to remain on the trees for a day or two without any more syringing.

**PROTECTING FRUIT FROM WASPS AND FLIES.**—Although exceptionally plentiful early in the season wasps have been very scarce lately, but if we have a few days of warm and dry weather they will soon increase. The damage done to all kinds of autumn fruit by these insects is often enormous, and every means must be used to lessen their numbers as soon as they put in an appearance. Their nests may often be found by quietly watching which way they fly towards evening, and carefully following in that direction until the exact spot is reached. Generally speaking, it will be in some dry, stony bank or near the roots of large trees. The place must be marked with a stick, so that it can be easily found at night, when the insects are at home. There are various ways of destroying the nest, one of the simplest and safest being to pour about half a pint of gas tar into the hole and lay a piece of turf on the top of it. This will suffocate the inhabitants, and two days after they should be dug out and the brood destroyed. Another way is to make squibs by mixing two parts of sulphur to one of gunpowder, and wrapping it up in brown paper in a cylindrical form, about half an inch in diameter and 9 inches long. The end of this should then be set fire to and inserted in the hole, and a piece of turf put over it when it gets well started. If a little gunpowder is arranged at the end by itself so as to go off at the finish it will tell when the mixture is burnt out, and drive the smoke home to the nest. A few minutes afterwards the nest may be dug out and the brood destroyed. A teaspoonful of cyanide of potassium placed in the entrances in the daytime destroys all the wasps.

Those that cannot be caught at their homes may be trapped near the trees which they visit. There are several ways of doing this, and of catching flies, &c., at the same time. One of the best plans is to take an ordinary handlight and remove part of one of the panes of glass at the highest point of the cover, fit another handlight closely on the top of this, and be careful to see that there are no holes in it, packing it closely with moss or wadding where it touches the lower glass. The whole arrangement should then be put near to the place where the ripe fruit is, and must be raised a little distance from the ground by means of four bricks or something of the kind so as to give the insects plenty of room to creep under. A few pieces of damaged fruit or a saucer of beer and sugar placed underneath will entice them in. They afterwards fly through the aperture into the upper glass and then perish, as they are unable to find the way back again. Those who have no handlights should hang small-mouthed bottles about the trees, and place a little beer and sugar in them. Some very good glass traps are also made specially for this purpose.

Figs and Grapes should be placed in small muslin bags before they get ripe enough to suffer damage. These will require careful watching in wet weather to see that the fruit does not decay from want of air. Other fruits, such as Peaches, Nectarines, Plums, Gooseberries, and choice Pears, may be protected by fastening hexagon netting or muslin over them, but there must be no holes at the floor or on the sides of the walls where the insects can obtain an entrance, or they will soon do so.

#### FRUIT FORCING.

**CUCUMBERS.**—Shorter days necessitate closing the house earlier, also syringing sooner, so as to have the foliage fairly dry before dusk. Fire heat, in consequence of the cold wet weather, has become necessary to maintain a temperature of 70° to 75° by day and 65° to 70° at night. Keep the growths fairly thin, removing old shoots so as to make room for the young ones, and so provide a succession of bearing parts. Stop the shoots one joint beyond the fruit unless growth is wanted, then allow more extension, but avoid crowding. Encourage root action by a steady bottom heat of 80°, surface dressing with lumpy loam and sweetened horse droppings, and afford liquid manure in a tepid state whenever water is required. Do not allow the fruit to hang after it becomes fit for use, and avoid overcropping.

**Autumn Fruiters.**—Afford every encouragement to these plants, stopping so as to insure an even spread of bearing growths. Remove the first fruits, also the male blossoms and tendrils. No shading will now be necessary. Avoid syringing in the morning, and only use the syringe on fine afternoons, and then early and lightly, keeping the house damped as occasion requires. Admit air in moderation; draughts must be avoided, as they chill and stunt the growths, and if no air is given the foliage becomes very thin and flabby when kept close, moist, and warm. Seek to encourage sturdy thoroughly solidified growth by early and judicious ventilation whilst opportunity offers, but without gentle fire heat this is hardly practicable at this season.

**Winter Fruiters.**—Seed having been sown in August the plants will now be ready to plant out. The house must be a light one, and have means of securing a temperature of 70° to 75° in all weathers, also of maintaining a bottom heat of 80° to 90°. The first consideration is to thoroughly cleanse the house. All soil previously used must be cleared out, and the whole of the interior scalded, if possible, with boiling or

very hot water; the woodwork washed with softsoap, water, and a brush; the glass washed with water only, the walls limewashed, and everything put into proper repair. If rubble is used about and over the pipes for bottom heat see that the material is clean, and if not take it out and clean it by washing. Secure the drainage with a layer of turves, grass side downwards. Put in hillocks or ridges of soil 2 feet wide at the base, 10 to 12 inches deep and 1 foot across at the top. Turfy loam laid up until the grass is killed, chopped up rather roughly, two-thirds, fibrous sandy peat one-third, chopped or torn up, rejecting any woody matter, old mortar rubbish freed of laths and other pieces of wood, the rough broken small, one-sixth, the whole thoroughly incorporated, form a suitable compost. It should be neither wet nor dry, and only made moderately firm. This material is equally suited for plants in pots or boxes, which should be well drained, and only so far filled with soil that when the plants are introduced their seed leaves will be about level with the rim of the pots, earthing the plants as they increase in growth. Very useful fruit can be had from plants in pots or boxes in houses with a stove temperature. A quart of soot, or any of the advertised fertilisers, may be added to every bushel of the loam. Plant when the soil is warmed through, press the soil gently, and secure the plants to stakes reaching to the trellis. Rub off the laterals to that height, and stop the leading shoot at about the second or third wire of the trellis. Shade from bright sun until established. Syringe lightly in the early afternoon, damp in the morning, noon, and afternoon. Keep a day temperature of 70° to 75°, raising 10° to 15° from sun heat, and a night temperature of 70°, falling 5° in the early morning. Plants from seed sown early in August will fruit in late autumn, but they must not be cropped much if they are to give a plentiful supply from Christmas to spring.

**Cucumbers for Christmas.**—For producing these sow early in this month, September. Telegraph is one of the best, but it is much confused with other varieties by cross-breeding, so that a true stock of Rollisson's original variety is not always secured. Cardiff Castle is also an admirable winter fruiting variety. The seed is best sown singly in large 60-pots a little more than half filled with soil, and covered half an inch deep. Keep the plants near the glass, earth them up as they grow, and transfer to 48's when they need a shift, placing a stick to each, to which secure the growth as it advances. Rub off laterals as they show, training with a single shoot. They will be fit to plant during the first fortnight of October.

**Cucumbers in Pits and Frames.**—The growths of these will need to be trained thinly as a safeguard against damp. Watering must be done early and judiciously, as damp and cold soon injuriously affect Cucumbers at this season. A light sprinkling may be given at closing time on fine afternoons, but water will not be much needed after this, or very little of it, the plants obtaining sufficient moisture through the decay of the fermenting beds. The beds must be lined with stable litter, and a little air given at the back to allow of any steam escaping. The temperature should be kept about 65° at night. Employ a covering of mats over the lights on cold nights. With care Cucumbers will be obtained from these structures for many weeks to come.

**MELONS.**—*Perfecting the Crops.*—In order to enhance the flavour of the fruit, maintain a brisk heat by day with sufficient ventilation to insure a circulation of air constantly. Keep water from the house and the soil somewhat dry as soon as the fruit commences ripening, supplying moisture only to prevent flagging. The October fruiting plants are swelling their crops, and must be assisted with weak tepid liquid manure whenever they become dry. Keep the laterals well in hand; also a sharp look out for canker, and rub quicklime into the affected parts, repeating as the parts become moist by exudation or spread of the canker, for it is next to hopeless striving to avert the evil at this late period of the season, except so far as to secure the ripening of the fruits. If there is any fear of cracked fruits, cut the stems about half way through a little below the fruit. It will check the flow of sap. But the chief cause of cracking is a close atmosphere, causing the deposition of moisture on the fruit during the night and in dull weather, especially after a prolonged period of fine bright weather. Ventilate freely, and keep the air moderately dry by a little ventilation constantly, as a preventive of canker and cracking.

**Latest Plants.**—These are now well up the trellis and showing fruit blossoms, which should be fertilised daily, the atmosphere being kept dry, a little ventilation being given at night so as to insure a circulation of air and prevent the deposition of moisture upon the blossoms. Stop the shoots at the time of impregnation one joint beyond the fruit. As soon as a sufficient number of fruits are set on a plant remove all the staminate and pistillate flowers, reducing the fruit to three or four on a plant, or according to their vigour. Earth up the plants after the fruit is fairly swelling, and be careful in syringing the foliage, only using it on bright afternoons, but maintain a genial condition of the atmosphere by damping in the morning and afternoon. Be careful not to give too much water, but encourage healthy root action by moderate moisture in the soil. The temperature must be maintained at 70° to 75° by day artificially, and 80° to 90° by day from sun heat, with a night temperature of 65° to 70°.

**Plants in Frames and Pits.**—These will not require further damping over the foliage, and should only have sufficient moisture in the soil to prevent the foliage flagging, which should be kept rather thin, and the fruits well elevated above it on flower pots, each fruit being placed on a piece of slate, applying good linings for affording the requisite heat to finish the fruit satisfactorily, maintaining also a dry atmosphere with free ventilation.



**STRAWBERRIES IN POTS.**—Late runners may yet be potted, giving them 5 or 6-inch pots, and if these are filled with roots before winter the plants will produce some good fruit, though not as plentifully and large as those potted earlier; nor are they available for early forcing, but they do well for succession, especially when brought forward very gently. Plants potted some time ago should be examined, and if making side buds these should be removed with a piece of hard wood, so as to throw the vigour into the central crown. If the plants grow vigorously liquid manure will not be necessary, but those that are weakly should be supplied with it twice a week. Remove all runners as they appear, and loosen the surface of the soil, especially round the sides of the pots, so as to secure the more thorough moistening of the ball. As the plants grow set the pots wider apart. If red spider attack the plants hold each inverted with one hand, and with the other dust the under sides of the leaves with soot from a dredger.

## THE BEE-KEEPER.

### SEASONABLE HINTS.

THE weather has been most unpropitious of late, and bees have been unable to collect sufficient honey for their daily wants, and will, in most cases, have had to draw their supplies from the honey already stored in the hives. This is unfortunate, as there is a great quantity of white Clover still in blossom; in fact, I do not recollect such an abundance of it at this season of the year. A few days of hot weather, such as we expect at this time of the year, would have given quite a honey flow from this and other sources, and enabled the bees to collect a fair amount of honey. The continued wet, which appears to be very general, will, I fear, also be the cause of disappointment to those who have taken their bees to the Heather. At present there does not seem any sign of its clearing and having settled weather.

### TAKING THE SURPLUS.

I must repeat my advice that no time should be lost in taking such surplus as can be spared, for if this weather continues any unsealed honey in the supers will either be consumed or carried down into the body of the hives.

Those who continue to keep bees in skeps will do well to take up those selected for that purpose at once, for except in Heather districts it is not likely that any additional weight of honey will be obtained after this time.

It is to be hoped that the plan of sulphuring the bees in skeps is now seldom practised, for in addition to its cruelty it spoils the delicate taste of the honey.

### DRIVING THE BEES FROM THE SKEPS.

Those who have attended the Shows of the Bee-keepers' Association will have seen how easily driving may be done, but there may be some to whom a short explanation of the *modus operandi* will be useful. Driving can be done by any person of moderate intelligence. In this, as in all manipulation with bees, we should proceed quietly and deliberately, taking care not to jar the hive or excite the bees, everything being ready before touching the skep containing the bees.

### CLOSE DRIVING.

An empty skep about the same size as the one to be driven, a pail, and a towel or cloth are required; then blow a little smoke into the mouth of the hive before removing it from its stand. The bees being alarmed will run up to the honey, and if we wait a few minutes they will fill themselves, and in this condition they seldom sting. Raise the skep gently, turning it upside down, and place it in the pail; put the empty hive on it, so that the rims touch, and bind the two together with the cloth. Should the hive have a flat top the pail will not be required. Now commence and continue rapping the sides of the skep containing the bees with the open hand, hard enough to jar the combs without breaking them down. In a few minutes the bees will make a buzzing noise and commence running up into, and cluster in, the empty skep. The rapping must be continued for some time, usually from five to ten minutes, when most, if not all, of the bees will be found in the hive that a few minutes before was empty. To ascertain if such is the case

untie the cloth and gently raise one side of the skep; if all are not up continue the rapping as before until they are. The skep containing the bees should at once be removed and placed on the stand that it originally occupied, when any bees that are on the wing will join those in the skep. Having now got rid of the bees from the honeycombs a cloth should be at once covered over the combs to prevent robber bees from getting into it. Remove the hive to a place of safety, and extract from such combs or portions of comb as contain honey as soon as convenient.

### WHAT TO DO WITH THE BEES.

The bees can now be united to any other colony as follows. Blow a little smoke in at the entrance of the colony to which it is wished to join the driven bees, and give them a few minutes to gorge themselves with honey. Lift up the hive and sprinkle them with some very thin syrup; then put it on the ground on its floor board, raising up the front edge of the hive on a wedge or stone. The driven bees should also have a little smoke to keep them from flying, and a very little of the same thin syrup sprinkled among them, and should then be thrown by a sudden jerk in the front of the raised hive entrance. A cloth or newspaper should be first placed under the floor board to prevent the bees from being lost, and they will run in and join the others. In my next I will further explain what may be done with driven bees.—JOHN M. HOOKER.

### MODERN BEE-KEEPERS BEHIND THE TIMES.

It is a well-known fact that I have for years exposed the shortcomings of modern teachers, and taught very much like what appears on page 166, August 20th. The system there described is an ancient, and not a modern one, as the writer of the notes appears to imply. I should be pleased if he would tell us when their views were altered, giving date, and where the record is to be found, as it is not so very long since extracting from brood combs was strongly recommended by the modern school.

The want of some ready way of getting bees from supers has, no doubt, as the writer says, long been felt amongst modern bee-keepers, of whom he is confessedly one, but not amongst ancient bee-keepers, more practical and more experienced. A short time before I described the carbolic acid with the paper method, modern bee keepers were at their wit's end how to get the bees cleared from them without clearing the honey at the same time. Shortly afterwards my plan was pronounced by novices and experienced bee-keepers alike as the best and speediest of all systems, and the late Mr. William Raitt once duly accredited me with the idea, although Mr. Cheshire in his work leaves the impression that it was Mr. Raitt's; and many others, as I anticipated through the Journal, have also laid claim to it.

It is not many months since I gave a description of super clearers, and as I am fully acquainted with all sorts can speak advisedly on the subject. Cone super clearers have been before the public for many years, and were not invented last year, as stated at page 166; nor is the method of working as described so good as is practised in America, the home of the invention. Some people object to what they term the "nasty acid," but it is cleanly and safe, and far superior to smoke, which contains creosote. I never use smoke, and my first article appeared in the *Cottage Gardener* against its use upon bees at least thirty years ago.

Clearing supers with carbolic acid paper is almost instantaneous; combs are neither broken nor soiled, and the work is finished quicker than the time it takes to replace a super with the cones, and sometimes robbers will get in.

One of my earliest super clearers consisted of a close box, having a sliding mouthpiece, and a pane of glass covered by a sliding shutter. The super or supers were simply placed in this box, the mouthpiece being kept closed until many bees appeared at the glass, when the shutter was closed and the mouthpiece opened; then out rushed the bees to a platform leading them to the entrance of their own hive. The plan was a good one, superior to the cone clearer, but much inferior to the carbolic paper.—A LANARKSHIRE BEE-KEEPER.

### PUNIC BEES AND THOSE WHO KNOW NOTHING ABOUT THEM.

IN the "*B. B. J.*" for August 27th someone signing himself "Inquirer" wants to know who I am, my real name, &c., and he also feigns ignorance as to "*A. L. B. K.*," Messrs. Stokes and Robinson who are mentioned in the *Journal* on August 20th, and "if they are known in the bee world as men of experience," and runs to Messrs. Cowan and Carr to advise him to have nothing to do with Punics.



These kind persons preface their advice by saying, "As a rule we do not like to import into our columns controversies originating in other journals," a very good rule too, but they have not adhered to it. They do not say that the Punic stock in Mr. W. B. Carr's apiary in the spring of 1890 was the "best and strongest" he had, see *Record* for June 1890. They do not say that Punic bees were mentioned in their *Journal* on June 5th, 1890, and where they came from; nor do they say that when Mr. J. W. Woodley wrote on October 30th, 1890, condemning them before he had ever seen a bee, I wrote offering to supply him with two queens, to be tested against any two he choose, and if they failed I would make up the difference. Oh! for consistency. They would on no account break their rule, made for the occasion, to do me a favour, but they break it on the first opportunity to do me something else.

I never had a very high opinion of their accuracy, and certainly it is not improved after reading the following:—"The only other person besides 'A Hallamshire Bee-keeper' (otherwise John Hewitt), who has written in favour of Punic bees is E. T. Pratt." Mr. Henry Alley says in the *Apiculturist* for August, "Our opinion is most favourable of them. If the Punic bees are one-half as good as is claimed every bee-keeper will want them, and all other races will be superseded, and now that we have seen these bees and have become convinced of their superiority we shall commence to rear them." If this is not "in favour of Punic bees" I should like to know what is. I have never seen or exchanged a line with Mr. Alley. Another person I will name who has written in favour of Punic bees is Mr. W. B. Carr, one of the editors of the *B. B. J.*, but this was before he found out how difficult it was to import them; yet these learned editors now say, "We know nothing about the so-called Punic bees, and can give no information as to their value."

"Inquirer" thinks he makes a great point of the bees being here seven years. Is it seven years since 1886? I trust you will find space for this in the *Journal*, and if the Editors of the *B. B. J.* want it let them break their rule again and import it into their columns. It is no use my sending it to them, as it would be destroyed judging from past experience. "Inquirer" should remember that it is in very bad form to ask for a writer's name without giving his own, and I think no editors, save those who conduct the *B. B. J.*, would either have printed the anonymous request or supplied the information. Anyone sending his name and address to John Hewitt & Co., Sheffield, can learn all about—A HALLAMSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

Mr. H. C. Hartvelt, Lisse, Haarlem, Holland.—*Bulbs*.

Mr. G. Shrewsbury, 36, Gray's Inn Road, London, W.C.—*Heating Appliances*.

Mr. B. Soddy, 243, Walworth Road, London, S.E.—*Bulbs*.

Robert Veitch & Sons, 54, High Street, Exeter.—*Catalogue of Bulbs and Other Flower Roots, Carnations, &c.*

J. C. Wheeler & Son, Gloucester.—*Catalogue of Flower Roots, Strawberries, &c.*



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Begonias** (*F. Geeson*).—We have received the flowers, which are very good indeed, but your note cannot be inserted this week.

**Hardy Annuals** (*F. W. I.*).—French and African Marigolds would not be permissible in a stand of twelve hardy annuals, or at least most judges would disqualify stands containing them.

**Roses on Manetti Stocks** (*W. K. B.*).—It is neither desirable to earth up the stocks as soon as they are budded nor after they have started into growth. The earth is cleared from them for the purpose of budding and not returned.

**Certificates for Plants** (*Subscriber*).—The certificates of the Royal Horticultural Society are only granted by the Fruit and Floral Committees of the Society for fruits, plants, and flowers placed before them at the Society's meetings and shows.

**Roses in Pots** (*New Subscriber*).—You cannot do better than repot your Roses at once, the H.P.'s in a compost of good fibry loam, one-seventh of manure, and sand. If the loam is light add one-seventh of clay which has been dried and reduced to a powder; if heavy, add

more sand, charcoal, or any gritty material. A 6-inch potful of bone-meal and the same quantity of soot may be added to a barrowful of soil. For the Teas add one-third leaf mould. Turn the plants out of their pots and carefully reduce the old balls by one-third, destroy no more fibres than possible. Place these plants in the same size pots, but carefully drain them. The soil should be pressed firmly round the old ball. After potting plunge the pots in ashes and syringe two or three times a day during dry weather to keep the foliage fresh, which will induce the plants to root freely before autumn, and thus be in the best possible condition for flowering another season. When to prune and how to prune depends upon the time you require them to flower. If you grow them in the greenhouse or bring them forward in that structure prune the H.P.'s early in January, thinning out the weak wood and cutting the stronger shoots back to one or two eyes. The Teas may be pruned at the same time, and the method of pruning depends almost entirely whether you are satisfied with buds only or require large flowers. If the latter prune well in, that is cut hard back; if the former, only remove unripe ends and shorten back weak shoots. If the varieties are of the Gloire de Dijon type only remove the unripe ends and tie the shoots in January round stakes. After flowering the growths need to be pruned back—that is to have all the old flowering wood cut away. We are glad to help you, and if there is anything you do not understand write to us again.

**Amaryllis Belladonna, Nerine sarniensis, and Fothergilli** (*J. N.*).—*Amaryllis Belladonna* succeeds fairly well in pots, and making its growth in winter requires to be kept near the glass in a temperature of 45° to 50°, also to be judiciously watered during that time, by not giving any until the soil is becoming dry, and then a thorough supply. When the leaves fall water should be gradually withheld, and the soil kept somewhat dry. We have flowered it very successfully in a greenhouse from which frost was merely excluded, but it is the better with a little heat when making its growth, and must have a light position. The plants do not require frequent repotting, but surface dressings and watering with liquid manure are beneficial while growing. *Nerine sarniensis* does not succeed very well in pots, as the bulbs usually become dry before they are potted, being weakened in consequence, and require a time to recuperate before they become sufficiently strong for flowering again, but they are not free flowering under artificial treatment. *N. curvifolia* (*Fothergilli*) is a better and more vigorous grower, and is variable in its time of flowering, but it is usually in late summer. It is a very beautiful species. When making their growth the plants should be kept well watered and in full light. They are best in a frame on a bed of leaves and manure, which afford gentle bottom heat. Failing this they may be kept on shelves in the greenhouse in all the light practicable, and when the leaves die the plants may be stored in a cool place, keeping the soil quite dry, until signs of growth are again apparent, but the bulbs should not be removed from the soil. They must be well cared for at other times, giving them a surface dressing of new soil in the autumn at the time of starting into fresh growth. They do not require potting oftener than absolutely necessary through the increase of bulbs.

**Rockery Plants** (*E. S.*).—You do not say how many you require. We have the following, among others, thriving well on a sunny rockery:—*Achillea Clavennæ*, silvery foliage and yellow flowers; *Alchemilla pentaphylla*, greenish yellow; *Alyssum saxatile compactum*, yellow; *Antennaria*, silvery foliage; *Aquilegia alpina*, purplish blue, with white centres; *Arabis alpina*, *A. alba*, *A. lucida variegata*, *A. caucasica variegata*, all with white flowers; *Aubrietia deltoidea grandiflora*, lavender blue; *Campanula garganica*, purple; *Cerastium tomentosum*, white; *Cheiranthus alpinus*, yellow; *C. Marshalli*, orange; *Cistus formosus*, yellow; *C. Ledon*, yellow; *C. roseus*, rose; *Convolvulus mauritanicus*, blue; *Cyclamen coum*, red; *C. repandum*, rose colour; *C. europæum*, rosy pink; *C. neapolitanum*, red; *Daphne cneorum*, pink; *Dianthus floribundus*, pink; *Draba aizoides*, *D. boeotica*, both yellow; *Dryas Drummondii*, yellow; *Erinus alpinus*, rosy purple; *Genista procumbens*, *G. triquetra*, both yellow; *Glechoma hederacea foliis variegatis*, reddish pink; *Gnaphalium hyperboreum*, white foliage; *Iberis saxatilis*, *I. sempervirens*, *I. Tenoriana*, all white; *Linaria alpina*, bluish violet; *L. cymbalaria variegata*; *Lotus corniculatus flore pleno*, yellow; *Meconopsis cambrica*, yellow; *Mimulus cupreus*, orange; *Orobis vernus*, purple; *Oxalis tropaeoloides*, yellow; *Phlox Nelsoni*, white; *P. verna*, rose; *Polygala depressa*, blue; *P. vulgaris*, bluish purple; *Rhododendron hirsutum*, pink; *Rubus chamaemorus*, white, ornamental edible fruit; *Saxifraga affinis*, brownish crimson; *S. aizoides*, yellow spotted orange; *S. biflora*, rosy purple; *S. caryophylla*, white; *S. cotyledon*, white; *S. Cymbalaria*, sulphur, spotted orange; *S. hirculus*, yellow; *S. juperiana*, yellow; *S. oppositifolia*, rose; *S. umbrosa crenata*, white; *Sedum acre*, anglicum, cruentum, *Elversii*, and *virescens*, all yellowish; *S. purpureum*, purplish rose; *S. pallidum roseum*, light pink; *S. albicans*, white; *Trifolium alpinum*, rose; *Vinca herbacea*, *V. major*, *V. major elegantissima*, *V. minor*, *V. minor plena*, all blue. Of all of the above you may procure plants, but some of them may be raised from seed. It is best, however, to obtain plants. They all will succeed well in a rather shady situation, but not under trees.

**Barbe de Cupucin** (*S. O.*).—This, the blanched leaves of Chicory, may be produced in many different ways, all that is requisite being to keep the roots in a dark place with a temperature of from 50° to 60°. Seed may be sown from April to July, and the culture may be the same as for Endive. The French, according to Thompson's "Gardener's Assistant," adopt the following modes of treatment.—"The seed is sown thinly in April or May. In November or December, one or several beds of light sandy soil, or well-decomposed dung, about 2 feet





AT the time this issue of the *Journal of Horticulture* reaches the majority of its readers probably the greatest autumn exhibition of fruit, plants, flowers, and vegetables that has ever been seen will be displayed in the Waverley Market, Edinburgh; and as the Show continues over Friday this reminder may still be in time for inducing some of our constituents to pay a visit to the "modern Athens" and be satisfied. Edinburgh is, in truth, a beautiful city, indeed in many respects unique; and apart from its public and scientific gardens is surrounded by fine seats of the Scottish nobility, the names of which are familiar as household words, and the fame of the gardens and gardening proverbial. Any horticultural pilgrims with a little time to spare, and who may desire to see the work of some of the best gardeners in the world, will only have to give expression to their wishes and they will find good guidance and as warm a welcome as they can wish from our friends in the north.

The provision made for this great Show by the Royal Caledonian Horticultural Society is of the most generous description, as is proved by the schedule. This contains no less than 282 classes, and more than thrice that number of prizes, apart from silver medals offered by the Turner Memorial Trustees and by the Society, and three Veitch Memorial medals. The Turner cup is for the best collection of fruit in the Show, the Society's cup being provided for the competitor who wins the greatest amount in stipulated classes. One of the Veitch medals is offered for the most meritorious dish of fruit in the Show, one for the most meritorious Orchid, a stove or greenhouse plant, and one for the most meritorious and interesting hybrid, plant, or fruit in the Show. A correspondent draws attention to the conditions of the competition, and says they will of necessity exclude all new and useful fruits, inasmuch as the word "hybrid" is to mean a cross between two distinct, or reputedly distinct, species, and not between two varieties of one species. It is within the bounds of possibility that some curiosity in fruit may be produced; but new and meritorious Apples, Pears, Plums, Peaches, Nectarines, Grapes, and indeed all fruits usually grown for consumption, are placed beyond the pale of competition. We mention this view of the case, as it is presented by a gentleman who is interested in the improvement of fruit and its culture, but is neither a grower nor exhibitor of either fruit or plants.

To revert to the schedule the Edinburgh prizes are not only numerous but valuable. When these lines appear nearly 900 awards will have been made. The greatest amounts appear to be £20, £15, and £10 in the specimen plant class. In two other plant classes 10 guineas are offered as first prizes, smaller yet substantial amounts following in each case, nearly 150 other prizes being provided in the classes. In the fruit classes £15, £10, and £5 are offered for twelve dishes; in another class, £10 10s., £5, and £3; and in three others, for orchard house and hardy fruit respectively, similar amounts. The greatest prize for Grapes is offered by Messrs. W. Thomson & Sons, £15 for eight bunches in four varieties, the second and third prizes being £8 and £4 respectively. Messrs. Mackenzie and Moncur offer a prize of 10 guineas for six bunches, £5 and £3 following. Besides these upwards of 120 prizes are provided in the Grape classes alone, and a considerably greater number in the classes for hardy fruit.

As might be expected, and as our telegraphic report shows, the display is extraordinary. Our critical correspondent, before alluded to, says he never before observed such generous latitude given to exhibitors of fruit, as Rule 2 says all competitors "except fruit growers" are held to declare that the subjects exhibited have been grown by them, the converse, he remarks, being that fruit can be bought or borrowed for winning the prizes. There must have been some mistake, but however that may be, we have seen sufficient of fruit growing under glass to satisfy us that British cultivators north and south can well afford to rely on their own skill, and we have not a doubt that the prizes won by gardeners will be for produce absolutely of their own growing.\*

Vegetables have the prominence to which they are entitled by their usefulness, amounts of £10 10s., £5, £3, and £2 being offered by Messrs. Methven & Sons for a collection of twelve varieties. For another twelve, from which Tomatoes, Mushrooms, and Cucumbers are excluded, £5 is given by Messrs. W. Dawson & Sons as a first prize; upwards of seventy other prizes being provided in the classes, including 10 guineas, 5 guineas, and 3 guineas for eighteen varieties of Potatoes by Messrs. James Dickson & Sons.

Cut flowers invariably constitute an important feature at the autumn shows in the north, and liberal provision was made for all the principal sections. About 100 prizes were offered, ranging from £4 downwards, for Roses, Gladioli, Chrysanthemums, Pansies, Asters, Dahlias, Hollyhocks, Carnations, and other popular autumn flowers.

Beyond all these special prizes were offered in seventeen classes, and there is also a department of ten classes devoted to bees and honey. Such in brief is an outline of the arrangements made by the Council and Committee to ensure an exhibition creditable to the horticultural fame of our northern friends, and it only remains for us to endeavour to convey an idea of the extraordinary success which has attended such well-directed efforts. A telegram comes to hand which enables us to do this of the Show, which opened yesterday (Wednesday) morning.

#### TELEGRAPHIC REPORT.

Great expectations had been formed concerning the Edinburgh International Show the present year; they are more than realised in the magnificent Exhibition provided in the Waverley Market. Extensive as that spacious building is, its resources are taxed to the uttermost; in fact it would have been impossible to find room for more exhibits of any kind. The market is 380 feet long by 160 feet broad. The majority of the smaller plants, the cut flowers, and the whole of the fruits are arranged upon eight rows of low tables, extending nearly the whole length of the building, while the central portion is devoted to the large specimen plants, and the handsome tables of plants arranged for effect, which constitute one of the principal features in that section of the Exhibition. A raised portion in the centre of the fruit tables is occupied with small ornamental plants, and the tables themselves are neatly draped with red and pink baize. Tall Palms and Tree Ferns are employed with excellent taste in various parts, of the market, and broad convenient gangways are left for the numerous visitors, who are now crowding into this remarkable Show.

As regards fruit, flowers, and vegetables, it is one of the grandest displays of British garden produce and British gardening skill that has ever been held. Plants are not so abundant as is usual at southern shows held during the earlier summer months. But those which are exhibited possess much merit, and some of the specimens have rarely been equalled, notably a superb example of *Ixora Duffi*. Altogether over 4000 entries have been received, or 1500 in advance of any previous Edinburgh Show, and these include exhibitors from many districts in British Isles. Very few have failed to appear in the lists, but some entries were received too late for admission, though a few important non-competing exhibitors arrived on the morning of the Show. In all respects the Exhibition is thoroughly representative, for both northern and

\* We have since found that instead of "Fruit Growers" the word "Fruiters" was intended, and inserted in a re-issue of schedules, and they are justified in exhibiting the best fruit they can purchase, as they compete only with each other.



southern cultivators compete keenly for the prizes, and well have they all maintained the credit of this district. Defeat in any of these classes is certainly not disgrace, as very rarely are exhibitions distinguished by such even and close quality.

Chief interest centred in the classes for collections of fruit, and the awards were awaited on Wednesday morning with much eagerness. In class 1, twelve dishes, including two Pines, two dishes of Grapes, two Melons, and six other kinds of fruit, there are four competitors, the leading honours being secured by Mr. McIndoe, Hutton Hall Gardens, Guisborough, who has an excellent collection, in which the Grapes were very conspicuous. Mr. David Murray, Culzean Castle, Maybole, follows closely, and Mr. J. Hunter, Lambton Castle, Durham, is third, all three being very close in merit. In class 2, twelve dishes, Pines and Bananas excluded, Mr. Hunter wins the first prize, the Grapes also being the most conspicuous part of this exhibit. The second prize goes to Mr. McKelvie, gardener to the Duchess of Roxburgh, and the third to Mr. Fairgrieve, Dunkeld. There are four competitors in this class also. In class 3, twelve dishes, Grapes and Pines excluded, Mr. Hunter is again first with most creditable Peaches, Plums, Apples, and Pears; Mr. McIndoe is a very close second; and Mr. Melville, gardener to the Hon. G. G. Dalrymple, St. Boswells, is third. In class 4, twelve dishes of orchard house fruit, Mr. McIndoe wins the chief award, and is followed by Mr. Hunter and Mr. Melville in the order named. In class 5, eighteen dishes of hardy fruit grown outdoors in Scotland, after a brisk competition Mr. Fairgrieve gains the first honours with admirable examples. Mr. J. Day, Galloway House Gardens, is second; and Mr. G. Goodfellow, gardener to E. C. S. Gray, Esq., Perth, third, all staging well. Five collections. In class 6, eighteen dishes of hardy fruit grown outdoors in England, Mr. Crasp, gardener to Lord Wimborne, Canford Manor, is far ahead of the two other competitors with fresh well grown fruits, in which the Pears, Apples, Plums, Peaches, and Figs are very notable for their fine quality. Mr. Nicholson, gardener to Wm. Miller, Esq., Sewardstone Lodge, Essex, is second; and Mr. Wright, gardener to C. L. Campbell, Esq., Hereford, is third.

The display of Grapes is astonishing both in number and quality, the entries varying from four to fifteen in each class, and including these in the collections nearly 600 bunches are exhibited, a large majority of which are admirable examples of the best varieties. It was generally known that Alderman Chaffin's Grapes had arrived from Bath, and the decisions of the Judges were looked for on the morning of the opening with the keenest interest. In class 7, eight bunches in four varieties, there are eight entries. All the sixty-four bunches thus provided are alone a beautiful exhibit of skill in Grape culture. After careful consideration the first honours were adjudged to Mr. Kirk, gardener to J. T. Paton, Esq., Norwood, Alloa; his bunches of Black Hamburg are grand, wonderfully well finished, and as nearly perfect as possible. Mr. Taylor, gardener to Alderman Chaffin, is second with superb bunches, but apparently they suffered in their journey north. Mr. Murray, Polmont, is a good third. Class 8, six bunches in three varieties, brought eleven competitors with a total of sixty-six bunches, and here again Mr. Kirk is the most successful, leading with Black Hamburgs, even and handsome, followed by Mr. J. W. McHattie, Newbattle, and Mr. G. Mackinnon, Lasswade. In the other Grape classes the exhibits are highly meritorious, and the principal prizes go to Messrs. McHattie, Day, Potter, W. Murray, Morrison, Taylor, and Witherspoon.

Peaches, Nectarines, Plums, and Apricots are extensively shown, Messrs. Lunt of Keir and Blair of Trentham winning the chief prizes. Hardy fruits are very largely shown, especially Apples, which occupy three long tables. Pears, also, are numerous, and one of the most successful exhibitors is Mr. Crasp, who secures prizes in many of the classes for single dishes.

Vegetables afford a wonderful display, as may be judged from the fact that there are seventeen exhibits in the class for a collection of twelve varieties, and the premier prize is well won by Mr. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Hants, a victory of which he may well be proud. Mr. Muir, Margam Park, is second, losing by a few points only, and Mr. Wilkins, gardener to Lady Guest, Dorset, is third. In the class for twelve dishes, Tomatoes, Mushrooms, and Cucumbers excluded, the prizes go to Messrs. Cocker of Stranraer, Low of Stirling, and Potter of North Berwick. Potatoes are represented largely and well in the class for eighteen varieties, no less than thirty-six collections being staged, and the Judges had the most difficult task of anything in the whole Exhibition. Ultimately Mr. Sinclair of Harviston, Dollar, gained the first prize, followed by Mr. Robertson of Hartrigge House, and Mr. Gentleman, West Craigmorrie, Armadale. In all the other classes of this division the competition was keen, and the exhibits of fine quality.

Concerning the plant classes we can say but little this week, but in the class for twelve stove and greenhouse plants Mr. Finch, gardener to J. Marriott, Esq., Coventry, wins first prize of £20, with grand specimens of flowering and foliage plants. In the class for a table of plants 20 feet by 5 feet Mr. J. McIntyre, gardener to Mrs. Pease, Darlington, is the most successful with a beautiful exhibit, and in the nurserymen's class, for a table 30 by 18 feet, Messrs. Ireland & Thomson, Edinburgh, win the first prize with a most tasteful group of plants. Cut flowers, including Roses, Hollyhocks, Carnations, Chrysanthemums, and many others, are a bright feature, and the non-competing exhibits are of considerable importance, but reference to them in detail and other exhibits of interest must be reserved till our next issue. It may, however, be said, in conclusion, that amongst exhibitors from the south Messrs. B. S. Williams & Son, Messrs. J. Laing & Sons, Messrs. Cannell and Sons, Messrs. Cutbush & Co., and the Royal Horticultural Society, are the principal, while of the northern exhibitors Messrs. Thomson & Son, Clovenfords, Messrs. Dobbie & Co., Messrs. Stuart & Mein, Messrs. Dickson & Sons, Messrs. Cocker & Son, Messrs. Laing & Mather, and Messrs. Methven & Sons, are also notable contributors to this splendid exhibition.

In recognition of the services rendered, not in connection with the Royal Caledonian Horticultural Society alone, but to British horticulture, we insert portraits of a few Scottish gardeners, whose features have not hitherto been depicted in these columns, also of the late Secretary of the Society, Mr. C. Stewart, who contributed so greatly to its prosperity, and of Mr. W. Young, the untiring Assistant Secretary and valued official. We have other portraits in hand to appear with a fuller report of the Show, those being first inserted that were first received—namely, Mr. R. W. Fairgrieve, Dunkeld, Perthshire; Mr. W. McKelvie, Broxmouth Park, Dunbar; Mr. W. Murray, Parkhall, Polmont; Mr. James McIndoe, Hutton Hall, Guisborough; Mr. J. Hunter, Lambton Castle; Mr. A. Kirk, Norwood, Alloa; Mr. M. Dunn, Dalkeith Palace; and Mr. A. McLeod, Superintendent of the Parks of Edinburgh. The excellent work of all those able men has been recorded in this Journal, and probably will be again.

## NOTES ON BEDDING PLANTS AND BEDDING ARRANGEMENTS.

FLOWER gardens ought now to be in full beauty. Many gardeners are reluctant to take cuttings from the plants for propagation lest the beds should be marred in appearance. It is, however, of the greatest importance that cuttings of all kinds be inserted as soon as possible, so that they may become well rooted before the dark days of winter. The only exception to this rule is in the case of Calceolarias, and the beginning of October is soon enough to insert cuttings of these, as if the cuttings callus before very severe weather sets in they may be depended upon to grow freely in early spring and make better plants than those which by reason of early propagation make growth during the autumn months.

Before commencing the work of propagation a careful survey should be made of the flower beds, noting those which have been the most satisfactory, determining the arrangements for another season, and propagating in quantity accordingly. In some instances where beds in particular situations have been especially striking it may be good policy to repeat them another season, but as a rule the arrangements each year should be as original and varied as possible, at the same time, of course, trying to make each succeeding display more attractive than the last. Although we may not always succeed in doing this it is a laudable ambition to try. In this district the soil is rather light and dry, so that the present, or I might almost say the past, summer has been favourable in many respects for bedding plants. White Marguerites are much more effective bedders than I have known them to be in any other locality, the plants being extremely floriferous, the tendency with them in many places being to make a great amount of growth without giving a proportionate display of flowers. This shows the necessity of noting the adaptability of plants to district. Dianthus Heddegi edged with a broad band of Cineraria acanthifolia or Golden Feather makes a charming bed, many of the colours being extremely rich and the marking of the flowers exquisite. The flowers are invaluable for cutting for vase decoration. The plants should be grown rather thickly, so that they soon form a mass so close that the flower stems support each other. The only attention required is to tie down to sticks a few of the longest flowering



shoots which spoil the evenness of the bed. I strongly recommend those who have not hitherto grown this fine type of *Dianthus* to give it a trial.

*Tropæolums* have been somewhat disappointing this year, owing no doubt to the want of sunshine and the continual showery weather. The plants have grown so strongly and continually as to completely hide the majority of the flowers, although many of the leaves were frequently removed. Two Maltese cross shaped beds were planted with a broad band of Golden Feather round a circle of *Pelargonium* Mrs. Perry with the flowers picked off. The remainder of the bed was filled in with *Amaranthus melancholicus ruber*. These have been quite a success, and at the present time look particularly attractive. The Ivy-leaved *Pelargoniums* Madame Crousse and Souvenir de Charles Turner are also splendid for bedding, and have quite superseded the old type of Ivy-leaved varieties. A large bed planted with the first-named, edged with a band of *Pyrethrum*, has found a host of admirers; the pleasing shade of salmon the flowers have seems to suit almost everybody, and as a combination of good colour the two varieties mixed in a bed are simply perfection.

Among Zonal *Pelargoniums* *Vesuvius* still holds its own as a dwarf scarlet, but where a very dwarf habit is not of much consequence John Gibbons is the finest of all scarlet bedders. The



FIG. 32.—MR. R. W. FAIRGRIEVE, DUNKELD.

flowers and trusses are very large, bright in colour, and freely produced. F. M. Atkinson nearly approaches it in merit, but where a sufficient stock can be obtained I would depend chiefly on John Gibbons. Mrs. Pollock, Black Douglas, and Marshal McMahon are a trio of showy and distinct golden tricolor and bronze varieties, while among the silver-leaved kinds Mrs. Perry and Bijou are the best I have seen. A very pretty silver tricolor which I have not seen for some years used to be grown under the name of *Italia Unita*. I wonder if any of the Journal readers grow it still.

*Clematis Jackmanni*, trained over sticks bent in the form of an arch, is simply grand when in flower, especially if the bed is edged with a band of *Dactylis glomerata variegata*. The praises of these two plants when associated in a bed have been sung over and over again, but they are still worth repeating.

Pansies have done remarkably well as summer bedders this season. They require a deep rich soil. When seen in good condition they are always admired, especially where the beds are filled with mixed varieties. Seed obtained from a reliable source produce many fine flowers, and the variety is so great that they are a constant source of delight.

PROPAGATING.—*Pelargoniums* should be taken in hand first. After trying various methods I have come to the conclusion that by far the best course to pursue is to strike the cuttings in boxes and pot them off in the spring. In this way a large number can be wintered in a limited space. The cuttings root quickly and make fine plants. Shallow boxes of any reasonable size answer the purpose well, but those which I prefer are 1 foot in width, 3 in length, and 3 inches in depth, half a dozen holes half an inch in diameter being made in them for drainage. This is afforded by a layer of partially decayed leaves, and the boxes are filled to within a quarter of an inch of the rim with sandy soil made moderately firm. If the cuttings are about 2 inches apart the best use will be made of the space without having them so crowded as to cause damping, for the boxes are best placed on boards in an open position. If the weather is bright and apparently settled, apply

water through a rose when the cuttings are inserted, but do not repeat the operation until the soil is quite dry. If showery withhold water.

*Verbenas*, *Ageratums*, *Alternantheras*, *Mesembryanthemums*, and *Petunias* I like to have either in pans or 7-inch pots, as they are handy for wintering on shelves. If pots are used they should be filled one-half of their depth with drainage, and the cuttings kept quite close in a frame till rooted, shading them from sunshine, and damping with a syringe in the middle of bright days. *Coleuses* and *Iresines* succeed well with the same treatment. *Marguerites* are conveniently wintered in boxes to supply a good stock of cuttings in the spring. Spring-struck cuttings grow into plants quite large enough for bedding by the time they are wanted.—H. DUNKIN, *Warwick Castle*.

## KEEPING PEARS AND APPLES.

HAVING been very successful last year in keeping the above named fruit many months longer than usual, I wish to record my mode of treatment. Some might like to prevent their fruit ripening all at once, and to extend the process over a long time. For instance, I had a fine sample of Blenheim Pippin Apples until the middle of June last year. The plan is very simple. I provide a package of German moss, or peat, and break it up rather fine, also hampers, boxes, large garden pots, and anything which will hold the fruit. I then hand-pick the finest fruit on a tree (Apples or Pears) before they become quite ripe and fit for table, leaving the smaller fruit some time longer on the tree that it may gain its full size. I then take a hamper and lay the moss over the bottom about 1 inch thick, then a layer of the fruits evenly, just touching each other, then moss on them an inch thick, thus alternately until it is filled. I fill all the pots and pans and boxes in this way, and put them in a dry cellar where the frost cannot reach them, occasionally examining the different sorts, as of course some ripen earlier than the others. It is of no use to pack away any that have ripened on the trees; they must be of full size, but not quite ripe, and they must be free from bruises and other faults, or they will not keep. Those which the winds cause to fall, if they fell on grass lawns or soft mould, will do very well in this way, but if placed on wooden floors they would shrivel and never ripen. Many small Pears have lately fallen in my garden, and I have stowed them away as I did last year so successfully, and they will keep till after Christmas.

The fruit is green as a rule when packed away in the dry moss, but as it ripens it gains its perfect colour and flavour, in no case shrivels, but remains firm and sound if not left too long. It seems to me to be most desirable to retard the ripening of fruit in this or any other simple way, for a long time to suit consumers or dealers in fruit, rather than have the whole crop on a tree ripen all at once. If you think well to insert these notes it may be specially useful to growers of fruit at this season of the year.—WM. MOODY BELL, 8, *Colonnade, Cheltenham*.

[They are most readily inserted, as they describe clearly a simple method of keeping fruit that has proved successful.]

## AURICULA GROWING MADE EASY.

I SHOULD like to describe my manner of treating these beautiful plants, not only in summer but during spring, summer, autumn, and winter. I consider it so simple that any person may grow them well without a glass house or even a garden frame if he has only a garden border or a yard where a border might be made, open to the sun and fresh air. A few handlights are required to protect them from too much sun heat, by shading, also from the intense cold and cold winds in wintry weather, and from the autumn and spring rains.

Some twelve months ago I described my treatment to Mr. Turner of the Royal Nurseries, Slough, and in reply he said, "He should think I would be very successful." Most persons know him to be a great grower of all the best Auriculas. I have plants of all sizes—named, stage, and commoner ones, all perfectly healthy. The largest one I have, as the leaves lie on the ground border, a self, measuring from tip to tip, is no less than 16 inches, which anyone may see by calling at my garden, Belleville, St. Marks, Cheltenham.

When I bought my edged plants in pots I immediately removed the pots and planted the Auriculas near the edge of my Vine border, which is about 2 feet above the path, so that the drainage is good. I take them up in the beginning of August and add fresh loam, leaf mould, and cow manure (two years old), then replant in groups of four or five according to the size, and cover them with handlights placed on three pots about 4 inches high. To give shade for about



a fortnight while the plants take root again the inside of the hand-lights is covered with whiting and milk.

After this I wash off the whiting and still keep the handlights over them to shelter them from the autumn rains, still raised night and day on the three pots. When the frosts come on and there is less sun by day I use lower pots, say 2 inches high. During the severities of winter at times, night especially, I put the handlights right down on the ground, or one side raised on a small pot.

As the spring advances they again have more air. At that season the ground is watered when necessary round the handlights, and never on the plants, as that would spoil the meal on the leaves and the advancing blooms also. For any approaching horticultural show they may safely be placed in pots for exhibition. I am careful to remove all decaying leaves at all times.

When I replanted them in August all but one was perfectly free from any sign of decay at the roots, to which they are so subject when in pots. The part of a long main stem was touched with decay, the one I speak of because all the fibrous roots were above it. This bare part should have been cut off a year ago. It was done now to the safety of the plant.

I have given this statement of my mode of growing Auriculas as I consider it to be easier, safer, and more natural than to have them in pots; and some persons may like to try the same way. All my plants survived the last very trying winter. By inserting the above in your valuable periodical you will oblige. I should have been very glad to have written occasionally to those growers, of Auriculas who have written in your periodical if they had given their addresses as well as their names. I refer to Mr. J. Douglas, Rev. F. D. Horner, Mr. Henwood, Mr. Dean, and many others. Would you ask them to oblige by so doing in the future?—WILLIAM MOODY BELL, 8, *The Colonnade, Cheltenham*.

[We are obliged by this communication, but cannot ask any of our friends to depart from their usual practice. Some writers on florists' flowers and other subjects are obliged to withhold their addresses to avoid correspondence taxing them too severely.]



#### A VISIT TO COLCHESTER.

THE attractions of a Rose show are generally two in number. First, the Roses; second, the band (occasionally, perhaps, this order may be reversed!). A good band will generally draw an attendance, and really first-class Roses are to be seen every day in few places; but the town of Colchester is unable to support a Rose show, because its fortunate inhabitants are quite *blasé* to both these attractions. I do not know whether the old Roman soldiers when they camped here had much martial music, or whether the British young men and maidens turned out much to hear them; but at all events the effect of a good band can have been no novelty to the good people of Colchester for many years. And as to Roses, they are fast becoming a speciality of the place. With three large nurseries almost entirely devoted to Roses nearly touching one another, and yet, I hope, in no way impeding each other's trade, you might as well expect the people of the place to come to exhibitions of cotton at Manchester or coals at Newcastle as Roses at Colchester. It is otherwise, of course, with those who live elsewhere. It is far better than any exhibition to see the plants themselves growing in such profusion, and if you have been charmed with a single bloom of any particular variety as shown in a stand, how much is your knowledge of it increased by the sight of a hundred plants or more of the same growing altogether, and with flowers in every stage of development.

In company with a distinguished brother rosarian, I paid my annual visit to the City of Roses this year about the middle of August, too late to see any of the Roses at their best. A good time to go, in an ordinary season, is about the third week in June, when the lovely Teas are fast approaching their prime (the first blooms being generally the best), and the busy show season, when one cannot expect any attention, has not commenced. At the close of a week of fine weather there would always be plenty to admire in any of the summer months, and we had been waiting for such a time, but as it did not come we had to go without it, though well aware we could not see many good flowers after such a sunless, rainy time. On arrival at the station we found

MR. PRIOR,

who has been most indefatigable in competing at exhibitions during the last two seasons, superintending the arrangements at his stall on the railway platform. It looked exceedingly bright and fresh, with much better blooms than are usually seen in such places, and there are certainly few stations which provide such a pleasant and attractive sight gratis to passing or waiting travellers.

MR. FRANK CANT

was kindly waiting for us outside the station and drove us direct to his grounds, which are at no great distance. He needs no introduction from

me, as the success of his exhibits during the last three or four years especially have helped to spread and increase the reputation of the name which his uncle first made so famous. We know that the lateness of the blooms this season rendered him unable to show in the champion class at the Crystal Palace, but he made considerable amends for it afterwards; from about July 7th he maintained, I believe, a nearly if not quite an unbeaten certificate, and if Yorkshire has in the past triumphed at the Crystal Palace, the return match was played off this year when the Northern (Jubilee) Trophy was carried away to Colchester.

It is two years, I believe, since Mr. Frank Cant opened his new grounds at Braiswick. The soil seemed to me a trifle lighter than that at Myland, but they are not far apart, on the same slope of hill, and I daresay there is but little real difference. The largest field of Roses which runs right down to a cutting in the main line of the G.E.R. seemed to be particularly well situated in its slope to the sun, with a fair amount of shelter and protection from cold winds on all sides, and one amateur at least (who has attempted staging in wet weather, under trees, in a greenhouse, a coach-house, a bell tent, a storeroom, and a dining room) felt just a little covetous on inspection of the large and commodious staging shed at the bottom of the field.

Many of the H.P.'s showed rust, which is certainly very detrimental to their general appearance, though I believe it does no harm, but if anything helps the ripening of the wood; still, when plants have lost a good many of their leaves they look un-summerlike and depressing to any but experienced eyes. There was not much mildew, and it goes without saying that the plants looked well cared for.

Budding was in full swing, and my friend and I, being both hard-working amateur "Buddists," were much interested in seeing how this operation is carried out on a large scale. What astonished me most—but then, I have a long way to stoop, and am no longer young—was to see a man budding *Manettis* from a standing position. There were four different operations, performed by different individuals. First one man to bend and hook the branches of the stocks back so that the stems could be easily got at; then another to clear away the earth an inch or two deep from the stems all down the row (it comforted me a little to see this man at least with one knee on the ground); then the actual operator—he stood behind the row of plants with his budding knife in one hand, and his prepared bundle of shoots containing buds in the other, and bent over his work (it gave me the backache to see him).

His first stroke astonished my friend, for it was an upward slice at the stem of the stock, taking away an inch or two in length of the outer but not going through the inner bark; the cross and longitudinal cuts followed as quick as possible. Without waiting to reverse the knife the bark was opened on each side in no time by the blade, the bud was taken from the prepared stem from the lower end with a long sliver at the other end, the wood came out in a moment from this long end, in went the bud, and the long part was cut off to fit the cross cut with great precision; and by the time I stooped down to see how well it was done he was half-way through the same operation on the next stock.

It was explained to us that the first upward cut of outside bark was in lieu of any wiping of the stem from adhering earth, which is generally practised. We know that a particle of soil or dirt getting inside the cut between the inserted bud and the stem would be highly detrimental, but it must require great accuracy to avoid injuring the stock by such rough and ready means, and amateurs in general would certainly prefer wiping the stem. A boy followed to do the tying in with raffia, which was well done, in double fashion, and tied tight with a double knot. Mr. F. Cant told me that he had given up the staving or pinching back of the starting buds in spring, which is often done to ensure there being more than a single shoot to the new plant, and so have I, both in H.P.'s and Teas.

There were really few good blooms to see, nor could we expect it, at such an unfortunate time. Of those unknown to me I noted Mrs. George Dickson and Souvenir de Rosieriste Gonod as possibly good, and Augustine Guinoiseau, the white La France, as decidedly worth growing; Sappho (T.) seemed better than I expected; L'Ideale (N.) was flowering most beautifully on quite dwarf maiden plants, at which I was surprised, but was told that this is its character as a maiden, and that the next year it sends up great long shoots. Another Noisette, Cloth of Gold, astonished me even more. There were whole rows of dwarf maidens in the open, and almost all of them in a flowering condition. I was informed that they always would bloom like this as maidens if budded from flowering shoots, but would, perhaps, never flower again.

Our time was expired before we had completed our survey, and our host kindly drove us off to the house of his uncle, Mr. B. R. Cant, of whom and his work more anon.—W. R. RAILLEM.

#### GOOD TOMATOES.

I THINK of all the Tomatoes I have seen this season, nothing has been better both as regards size, appearance, and eating quality than Perfection early in the season, and Trophy for a later crop. Of the latter it may be said that it requires a somewhat special treatment, inasmuch as quantities of fruit that I have had the opportunity of seeing have been much ribbed, of bad colour, and unequal in size. I have plants raised from seed from the same packet which are in some respects quite different in appearance. Those of the worst quality are growing in an extended border of good soil, and comparatively few of these are really good. The others planted as a kind of catch crop on



the surface of a bed of ashes and gravel, on which pot plants stand during winter and spring, have been so fine that it is difficult for visitors who know something about Tomatoes to determine the variety; the flavour, moreover, is quite as good as is Perfection. The plants have been fed with regularity. I noticed something of the same type in a large Kentish establishment, where the fruits grown in strong soil with plenty of manure were coarse, while on plant stages they were of much better quality. I have thought this note might be of service to those who have not much room to grow Tomatoes, and who may put themselves to much trouble to introduce good soil in order to have them finer. But with a really good variety it is astonishing what grand results may be secured in the manner described.—B.

## THE BRITISH FRUIT GROWERS' ASSOCIATION.

THE third conference of the present season was held in the Garden Hall, Crystal Palace, Sydenham, on Friday, Sept. 4th, in conjunction with the fruit show, and attracted a large audience of cultivators and amateurs. The proceedings commenced shortly



FIG. 33.—MR. WM. MCKELVIE, BROXMOUTH.

after 4 P.M. with a short address by the Chairman, Mr. T. F. Rivers, who referred specially to the steady advance in fruit culture for profit, and to the assistance the British Fruit Growers' Association had rendered in that direction.

The first paper was the following, by Mr. G. Hammond, which was fully appreciated by the audience, as Mr. Hammond's addresses invariably are, and Mr. J. Wright discoursed on pruning.

### GATHERING, PACKING, AND MARKETING FRUIT.

WE are all familiar with the usual instruction in cookery books on how to cook a hare—viz., "First catch your hare," which, if not the most important point, is certainly one indispensable; but having accomplished this, it is desirable to know how to cook it properly and well.

So, perhaps, some will say concerning the subject of this paper, "We want you to tell us how to grow a crop of fruit; anybody can gather it when it is grown." Stay, ye critics, I am not so sure of that. Nay, I go further, and say I am quite sure that comparatively few people know how to gather and pack fruit properly. In a few words, therefore, I will endeavour to tell first how it should not be done, and then also how it should be done.

Perhaps the way which gives least trouble (and this is the way lazy folks look out for) is to let the fruit hang until ripe (and then to climb the tree, if a large one) and give the branches a good shaking, when nothing will be needed but to pick up the fruit from the ground. Some may feel inclined to laugh at the mention of such a method, but I knew of a case in which this method was adopted with small dessert Pears, ripe and juicy, and from a high tree, with what results I leave you to guess. This is one way of how not to do it. Another way in which it should not be done is suggested by a common expression of "pulling" the fruit, which always seems to me to suggest much too rough usage both for the fruit to be gathered and for the tree from which it is to be taken. Anyone who has had any experience in this matter knows that if you take hold of any kind of fruit, and pull it off anyhow, that you break some part of the tree with almost every fruit. On examination of a fruit tree it will be observed that clustered round the present fruitstalks are numerous fruit buds, which are next season's fruit in embryo. Now if by carelessness or ignorance these be destroyed it is evident that not only has the present crop of

fruit been pulled, but with it also a large part of next year's crop as well.

Then, again, when the fruit has been gathered from the tree it is often allowed to fall from the hand into the basket, thereby causing it to be bruised and unsightly, and of course, to some extent, unsaleable, or at least it looks like what a friend of mine calls "tumble-down Pippins." This should not, and need not, be. As a general principle I may say, Always turn the fruit upwards, putting the thumb against the base of the stalk, when (if the fruit be ready) it will part readily from the tree without breaking a single spur or fruit bud. This applies especially to Apples and Pears; with Plums it will be generally found that the fruit parts more easily from the stalk than the stalk from the tree, and it is as well in ordinary picking that it should be so, as less damage is done to the tree thereby. Care should be taken in picking Plums not to destroy the beautiful bloom which most kinds have upon them; they should never be touched by hand except to pick them from the tree.

For large trees I think nothing has yet surpassed the ordinary fruit gathering ladder—i.e., wide at the bottom, and the usual kind of basket, somewhat smaller at the bottom than the top, with a cross handle and hook attached. For low trees a pair of steps will be found of very great service. In all cases the ladder should be set as nearly upright as possible, so as to press lightly against the tree, and keep the basket close to the picker, so that the hand may easily reach the bottom of the basket. The fruit should never be dropped into nor rolled about in the basket, or it will speedily show signs of rough usage. When it is intended to send the fruit direct to market, place it at once into the market sieves from the picker's basket.

Notwithstanding many suggested improvements during the last few years I think there is nothing so suitable for general use as the ordinary market baskets known as bushels, half-sieves, flats, half-flats, and pecks. These all allow the escape of heat, which is one of the greatest enemies of fruit after it has been gathered. Place the fruit into these carefully, and in doing so it should be properly sorted into large and small, or best and seconds, and of one quality throughout, not small at the bottom and large at the top, which in the end means loss. All packages should have a sheet of paper (blue tissue is generally used) over the top, and may be covered with fern or straw in any way most convenient, and is then ready to be despatched to the market or elsewhere. In the matter of packing fruit we have much to learn from our neighbours across the channel, who do more in grading the fruit and putting it into small baskets or boxes than we do. As a rule, it may be said that the smaller the packages into which the best fruits are placed the better, especially in a scarce season.

As to the time of picking, everything depends upon what is intended to be done with the fruit when gathered. If it is to be sent direct to market, in the case of Apples they may be gathered as soon as they have attained a saleable size and will part fairly easily from the tree, but if they are to be stored for winter use they must be allowed to hang until fully developed, and if possible until they are well ripened and the pips turned brown. Fruit to be stored should only be picked when quite dry, and must also be handled with great care; but if for immediate use it is not necessary to be quite so particular. Plums for ordinary kitchen may be gathered when only slightly coloured and still hard, but if of the best dessert kinds they must be allowed to ripen first. Most Pears require to be kept for a time after being gathered to become ripe and fit for use. Care must be taken not to gather too early, which causes them to shrivel, nor to let them hang so long as to have most of the crop blown down by a moderate wind.

I need not say much upon the marketing of fruit, but a few hints may be useful. As most of the fruit grown is consigned to salesmen I would say, Try and discover someone who bears the character of honest dealing, and trust him. Do not dodge about from one to another, which often has led to getting "out of the frying pan into the fire." Let the fruit be honestly packed, giving good measure, and customers soon discover this, and inquire for the goods, with the result that full market price is obtained with little difficulty. I find it to be a good plan as a rule to have a continuous supply of the same kind of fruit. In sending, say, 100 bushels of Apples of one kind to market, I would not send them all at once; but commence, say, with 15 to 20 bushels, increasing the quantity as the customers seemed to appreciate them. On the other hand, do not send a small quantity of a large number of sorts, which is very bewildering to the salesmen, who finds such consignments a great nuisance.

Lastly, let all fruit be in marketable condition when sent, or it will probably be left for days or weeks before finding a purchaser, and then only at a low price, alike unsatisfactory to the salesman and the grower. I have this year seen Damsons upon the market while still quite green, and absolutely unsaleable. How can



salesmen be reasonably expected to give satisfaction under such circumstances? One great advantage of the fruit from abroad is this, "That when placed upon the market it is fit for immediate use," which seems to suit the circumstances of most buyers, who say, "We do not want fruit to keep, we want it to sell." We must, therefore, try and supply not only the article they want, but supply it also in the condition in which they require it.

[We have a digest of Mr. Wright's lecture on the "Principles of Pruning," but cannot find room for it this week.]

## MILES OF FRUIT PLANTATIONS AND MILLIONS OF FLOWERS.

JUDGING from the letters I have received the article which appeared under the above heading a fortnight ago seems to have excited rather widespread interest, and more information is wanted by persons in various parts of the country and beyond its shores. One correspondent asks if I can tell him how much capital would be required to start places like Mr. Wood's and Mr. Cannell's, as he would "like to go into that kind of thing." If he is content to start as they did I suspect their greatest capital was in their heads and their hands, but if he wishes to establish a twin business such as theirs, supposing they were linked together, obtain land and stock it as it is stocked now, I dare not venture on an estimate, but it would amount to a very large fortune. Those businesses, it seems necessary to say, are quite distinct, one consisting of between 1000 and 2000 acres of land, a large and constantly increased extent of it devoted to the production of fruit, mainly for preserving; the other, a great emporium of flowers, with an adjunct of 300 acres under what may be termed mixed culture, and to simply enumerate all the different varieties grown would make up a very large



FIG. 34.—MR. W. MURRAY, PARKHALL.

catalogue. Businesses such as those cannot be made in a year or two, no matter how great the investment, but are like fruit trees in full profit, must have time to grow. When I first saw Mr. Cannell's establishment it consisted of one greenhouse, a few frames, and perhaps half an acre of land, possibly less, on what appeared a railway embankment at Woolwich. Mr. Wood was the son of a farm foreman, worked hard, saved a little money, and like his neighbour commenced action in a small way, and both of them by diligence in business, good judgment, and hard work made themselves what they are to-day. It is not many who make great industries at a bound, but men with business capacity and endowed with indomitable perseverance, who have "learned to labour and to wait" for the reward of success usually achieve it. As has been previously stated very little time was spent among the flowers, only an hour or so, but certainly "millions" were really seen, both at the beginning and the end of the drive through the "miles" of fruit plantations in a beautiful and salubrious district.

### FLOWERS AT SWANLEY.

It is only a question of climbing over the fence from Mr. Wood's fruit factory to Mr. Cannell's flower beds. One of the first to pause at was planted with Marguerites, half a dozen varieties in rows, but one so far excelled the rest in its vigour and the size of its yellow flowers that its name was sought for. It is simply known as the Branching Etoile d'Or, which it distinctly supersedes in all points except colour. Etoile d'Or is miffy, liable to lose its foliage and become generally unsightly, but the giant form is robust, always flowering, and "never has anything the matter with it." The flowers are in great demand in Covent Garden for various decorative purposes, and are cut at Swanley every day. There is no better test of merit than the Covent Garden test, and this variety is destined to become the yellow Marguerite for the million.

Carnations were losing their freshness, still the large collection grown in pots made a charming display. There is quite a run on Carnations and Picotees, and well do the sweet and charming flowers deserve their growing popularity. The new yellow or primrose ground varieties, with pink and red stripes, Saccharissa and Duchess of Fife, are highly regarded, and greatly in demand is the distinct white fimbriated Lizzie McGowan. Near them, not in flower of course, yet equally noteworthy, was a fine block of plants of the plumed pink Chrysanthemum Louis Boehmer. This is a counterpart in the character of its blooms of Mrs. Alpheus Hardy, but in habit and character of growth is altogether superior. The plants are sturdy, and appeared to be forming buds as freely as any other variety, and at the right time. They are mostly in 7-inch pots, and gaps in the rows and packing going on was suggestive that many more "Boehmers" will be seen during the ensuing season than "Hardys" were last year. This dainty variety appears to need a sunnier clime than ours, but the new plumed pink seems quite at home. Begonias in thousands made great squares bright, but the prolonged wet and cold weather checked their growth in the strong land; in the lighter, richer soil of flower beds in gardens generally these plants have put Zonal Pelargoniums in the shade this year. The best of these at Swanley for bedding is the scarlet King of the Bedders, and Mr. Cannell says it will have to go everywhere before it stops. It is of the John Gibbons type, but excels that excellent variety for massing, which is a sufficient test of merit.

But to see both Zonal Pelargoniums and Begonias in all their brilliancy, and it may be added purity, they must be seen under glass. House after house is filled with them, forming dazzling banks of beauty along each side of the long central paths. No doubt the very light structures are admirably adapted for the plants, but all the same such an imposing display could not be produced except by the best varieties and the best culture. The Begonias are arranged in blocks of colour, the Pelargoniums in mixture.

"Then people are not tired of these Pelargoniums, Mr. Cannell?" was a sort of fishing observation. "Tired, bless you; no, I should think not. Just look at them. Tired, did you say, of such flowers as these, and even better in winter than now? See the size and the shape and the colour and the trusses. Who do you think can tire of them? Why they will have them. They come to pick out a dozen, and go on picking. They can't leave them, don't you see. Tire! I should think not, indeed. We are always getting new varieties better and better. I have sometimes thought they couldn't be better, but they keep coming—yes, and going." I felt it time to explain that I did not wonder at it, and say if I was a man of wealth I would have a houseful of them, and only thought that possibly Begonias had become the favourites. "Begonias, yes, they are grand. I don't know what we shall come to with them I am sure, but they are summer flowers, while the Zonals go on all the time, all the time." "Well," was the next question, "where do you send them?" "Send them," was the response, "why all over the world." "Sent any to Mashonaland yet?" was the next feeler. "Now, come, come; not quite so fast, my friend; that is a little too previous. But," after a moment's reflection, "they will have to go some day after Lord Randolph comes home. They would do well there." That shows the earnestness of the florist, his spirit of enterprise, his belief that no part of the world is furnished without flowers. He has faith in their humanising influence, and there is not much doubt that he regards those who grow them and love them so well as to keep buying the new sorts as ranking among the best people in the world, and perhaps he is not far wrong. If the best people want to know the names of the best Zonals up to date they will find them here recorded. Double varieties.—Turtle's Surprise, Goldfinder, Nydia, Beauté Poitevine, Gloire de France, Rosea Superba, Tendresse, Mrs. Gordon, White Abbey, Golden Rain, H. M. Stanley, Sombre Horizon, and Salamander. Single varieties.—Lord Salisbury, Hercules, Rose du Barry, Mrs. Robert Cannell, Maud of Wales, Lady Brooke, Lord Rosebery, Cannell's Favourite, John L. Baldwin, Miller's Favourite, Winkfield Gem, Dr. R. G. Tucker, Mrs. Keeler Improved, Madame Patti, Souvenir de Mirande, Granville, Swanley Single White, and Lily. Several of these are quite new, and all well worth growing. The colours will be found in the autumn catalogue, just published, as also will the names and colours of the new Begonias, and how fine these are many persons have seen at exhibitions.

Selected seedlings, doubles and singles, of the last named flowers, arranged as in beds of separate colours under glass, crimson, yellow, rose, white, and a pleasing glowing amber colour, had a remarkable effect as viewed from the end of the long structures, and they lost nothing in merit by a closer inspection. It seems difficult to imagine that a much greater advance can be made on the best Begonias of the day; but that was an opinion often heard expressed three or four years ago. There has been a great march onward since then. They are large enough now to please most people; but who can say that in future varieties will not be forthcoming as sweet as they are beautiful?

Time only permitted a survey of the contents of other houses by a view from the doors. In one long stretches of Balsams laden with massive blooms; in another thousands of Achimenes, charming summer flowers, so distinct from all outside; in a third long banks of graceful Fuchsias, double and single, dark and light; in a fourth a forest of Coleuses in all imaginable colours, from bright yellow to dark maroon; in a fifth grotesque Cactuses, and all sorts of plant curiosities; and so we might go on. But still just one more house demands mention—a long structure filled with Cannas. The latest varieties of these are as far in advance of the old familiar forms as are the Begonias on their progenitors five or six years ago. There was no getting past these handsome



Cannas without learning their names, and here they are:—Antonin Chantin, Edouard André, Felix Crousse, Louis Thibaud, Lutea Splendens, Madame Just, Petit Jeanné, Ulrich Brunner, Victor Hugo, and Simon Délaux. They are valuable alike for conservatory and garden decoration, and continue in beauty for a very long time.

A rush was made through the Dahlias, which are extensively grown, but only a few flowers were open, so late was the season. Varieties of great beauty have expanded since then, and been honoured at meetings and shows as described in reports. Mr. Cannell was the introducer of the Cactus Dahlia Juarezi, and though not a few persons regarded it as



FIG. 35.—MR. JAS. MCINDOE, HUTTON HALL.

a sort of monstrosity and as violating all the rules of florists, it yet "caught on," and became the progenitor of a race that was evidently wanted by the great flower-loving public, or the demand for plants would not be so great, exceeding that for varieties in any other section. Many beautiful Cactus Dahlias are now grown over the length and breadth of the land, and one that is bound to spread far and wide is the new twisted, pointed, starlike, but double and softly rich form, Robert Cannell, a perfect Cactus Dahlia.

#### FRUIT AGAIN.

We now leave them and everything else in the floral home and drive through a land of plenty—at least, plenty of fruit, especially in plantations of young trees, for old Kentish orchards are like hundreds of others in various parts of the country, obsolete and comparatively worthless. They are relics of the past, and cultivated fruit plantations will in future supply produce for our markets.

Our first stop was at a splendid young plantation of standard Plums not on very tall stems, the trees about 5 or 6 yards apart, and Gooseberry bushes between them, about 5 feet asunder. The crop of these was being gathered by a little army of women and girls who were filling small deep narrow baskets quickly, swinging four of these over their shoulders and carrying them, two hanging in front and two behind, to the larger baskets at the end of the rows, and men were conveying the fruit to the factory in vanloads. Though these bushes were only planted three years ago last autumn, so well had they grown in the deeply worked fertile soil, and so sensibly had they been pruned, that they were bearing a remarkable crop of unusually fine fruit. The weight from each bush certainly exceeded 8 lbs., and 10 lbs. would be nearer the mark; but put it at 7 lbs., and even at the low price of three farthings a pound, or say, £7 a ton, the crop would be worth nearly £40 an acre, and, as the whole cost of cultivation, gathering—everything, would not exceed £20, we have a very respectable profit from these thrifty young three-year-planted trees. But that is not all. This was the second gathering, for the crop had been thinned when the berries were large enough for using green, the remainder left to ripen or nearly so, being asked for, the reply was as laconic as a reply could well be—"Lads." This meant Lancashire Lad—a large round dark red profitable market Gooseberry. Then there were the Plums above. The trees had been cut back twice to give sturdiness. They had made wonderful growth, and many of them were clustered with fine fruit. The variety appeared to be the Victoria, at least, in the part of the plantation under notice, though others in the far distance might be different. This was as fine an example of modern fruit culture as anyone could desire to see. The soil was well worked and made fertile to a good depth, the subsoil broken, weeds prevented, and the trees and bushes not overcrowded with shoots. No mere orchard planting on grass, or sticking trees in poor shallow ground and letting weeds make it poorer could approach the results attained. It was the best garden culture on a large scale, and that is the best and most profitable way of growing fruit. Some other plantations passed had Apples as standards, and under crops of Raspberries and Black Currants as well as Gooseberries, but the best Red Currants are grown in fields to themselves, with no large trees to shade them.

With the exception of one field of 500 acres without a fence, belonging

to Mr. Wood, and here and there a smaller field of Wheat, root crops, autumn Cauliflowers, or pasture, the eight or nine miles traversed was through a country of fruit. Speaking of Cauliflowers, one cultivator is said to have contracted to supply 500 tons to one firm for pickling, the heads to be cut up and tubbed on the ground. For miles we pass through avenues of Damsons, the trees growing almost close together in the fences. When they become old they are simply pollarded like Willows, and push up stronger growths again. Many of the trees were fruitless, while others were bearing good crops. Stretching away behind them, up hill and down dale, as far as the eye could see, were fields of Strawberries, Raspberries, and Currants in openings between plantations, not of tall forest but fruit trees. At every homestead were fruit baskets piled up waiting to be filled; but round several of the dwellings the old orchards were like jungles, and suggested that they could not be very profitable. Some old orchard possessors are like farmers who laugh at fruit-growing and everything else but their own jog-trot ways, and will grub along to the end; then the old order of things gives place to new methods—more intelligent routine, higher, cleaner culture, and greater productiveness. The change is coming steadily along, and is, in some districts, well established. There is yet much land in Kent, as in other counties, good in staple, yet in a woefully neglected state; the weed-infested, impoverished fields being blots on the face of Nature, that might be so fair and so satisfactory, if only men did their duty.

Higher and higher we go steadily dragging along till we reach the summit of a lofty range, drink in the pure sweet air, and look around on a landscape as beautiful surely in its way of hill and dale, wood and water—green meads and waving cornfields on the one hand, fruit fields and plantations on the other—as could be found under the sun; and far away in the distance and far down below us we see a shimmer of light, the reflection of the sun on the glass at Eynsford. We reach it at length after many a jerk and slide down the steep hill, glad enough to get to the bottom.

#### AN EYNSFORD MIXTURE.

Mr. Cannell has chosen a very delightful situation in which he can operate in raising flowers and seeds, and rusticate on the old farmstead down in the vale. In sheets of flowers and sleek horses, Potatoes, Peas, and partridges, fowls, fruit trees, and fattening pigs, geese and German Asters, rabbits and Roses, cows and Curly Borecole, and so on, he has a diversity of interests; and even if the combinations seem a little incongruous they suit him extremely well; and it is not in the least unlikely that he is even just a little proud of seeing inscribed on heavy carts "Henry Cannell, farmer." That is what he is; he is, in fact, farmer, florist, and seed grower, and has plenty of scope for his energy at Eynsford.

The "farm" is a long curving valley with a high slope eastward and northward to the upland, and one more gentle to the west and south. His new and commodious residence is on the higher ground and overlooks the park of Lullingstone Castle, the seat of Sir W. Hart Dyke, Bart, M.P. Mr. Robert Cannell and his pretty young wife have plenty of room, and the former has plenty to do as general overlooker of all that is going on, the head of the firm only driving over occasionally from Swanley to pat his horses, look at his pigs, and give a few general instructions.

The soil is excellent, a good free working yet substantial loam on chalk. Seed crops of all sorts of vegetables were filling out well, and the Peas just in the right place on the steep hill side during the dull wet season, but the new English Wonder was lower down, and bearing heavily. It is a decided improvement on its American prototype, producing larger pods, and peas of the highest quality, quite equal to the best of the later sorts. Flowers of all kinds, annuals, biennials, and perennials that will produce seed for raising others for flowering, no one knows where, made a rich and varied display. Seed as it became ready for gathering was secured daily, and spread out to dry in the long glass structures which are occupied with various plants during winter and spring. Mr. Cannell has already done much on this beautifully situated and fertile farm, and what he will make of it in future is not easy to anticipate, but no doubt a great and productive garden. Roses grow splendidly in the soil, and budding was going on briskly; indeed, everything appeared to be in a highly flourishing state.

It is good for a district, this conversion of land from agricultural tillage into fields of fruit and flowers in affording employment to men and women who would otherwise have to wander far from their homes, many of them to possibly starve in towns or struggle for existence in distant lands, to which they are tempted by shipping and other agents, who seek to make capital out of them. There is not the least doubt that since Mr. Cannell took possession of the land at Swanley and Eynsford it affords employment to at least a hundred times more men than it ever did before. England is not worn out by a very long way—its land is not worked out; but, on the contrary, vast tracts are comparatively worthless by want of working and well-applied labour, higher and cleaner culture would render them productive.

Letters still keep coming in. A Yorkshireman writes:—"My journey down to Swanley proved a great treat, in fact an eye opener;" and a Kentish man says:—"Every one of the Journals (of August 27th) on the stalls up and down the line was bought up. There is only one error in the account—the printer put an "0" too many in the east of the London factory. What has been done in the district is wonderful enough, apart from the London building."

I am greatly indebted to Mr. Cannell for guiding me through an interesting district, though so little time was left for inspecting his own establishments.—J. WRIGHT.





**EVENTS OF THE WEEK.**—The Great International Fruit Show held by the Royal Caledonian Horticultural Society at Edinburgh is continued to-day (Thursday, September 10th) and to-morrow. The National Chrysanthemum Society's early autumn Show at the Westminster Aquarium is also continued to-day. The Show of the East Anglian Horticultural Club at Norwich takes place to-day, and Galashiels Horticultural Exhibition on Saturday. Sales of Bulbs and Orchids by auction will take place at Messrs. Protheroe & Morris's rooms during the week, and particulars will be found in the advertisement columns.

— **WEATHER.**—Brilliant days have prevailed this week in the London district, and as the barometer is high and rising, hopes are high that a sunny autumn will follow.

— **MISS ORMEROD.**—We are informed that this talented and industrious lady has resigned her connection (as consulting entomologist) with the Royal Agricultural Society, but does not intend to be less useful to the agricultural and horticultural community. An untenable claim was made on her works, and though this was ultimately withdrawn she prefers to be free.

— **DEATH OF THE LORD MAYOR OF YORK.**—Many of our readers who have been associated with the great gala and horticultural exhibitions at York, will regret to hear of the death, on the 6th inst., of Mr. Alderman Philip Matthews, the Lord Mayor and President of the Society for this year, after several weeks' serious illness, the result of influenza followed by typhoid fever. Mr. Matthews has for a number of years been an active member of the Gala Committee, and his death will be very sincerely regretted by every person who knew him. Raised to the highest position in the city by his fellow citizens, he fully justified their choice, and profound sympathy will be felt for the Lady Mayoress in her great sorrow.

— **THE EAST ANGLIAN HORTICULTURAL CLUB** will hold the first autumn fruit, vegetable, and Dahlia Show, with other flowers (in aid of the Gardeners' Benevolent Fund), in St. Andrew's Hall, Norwich, on Thursday and Friday, September 10th and 11th, 1891. The Show will be opened at 1 P.M., on Thursday, by the Sheriff of Norwich, Geoffrey Buxton, Esq. Various musical attractions will also be provided. The Hon. Sec. is Mr. Albert F. Upstone, 16, Exchange Street, Norwich.

— **THE DALSTON AND DISTRICT AMATEUR CHRYSANTHEMUM SOCIETY** held their first excursion on Saturday afternoon last, when a party of about forty paid a visit to the Royal Gardens, Kew, and spent some time in an inspection of the glass houses and the outdoor collection of plants. Several hours were occupied in this way; the party then assembled at the Lion Gate, and drove through Petersham, Ham, and Richmond Park, concluding a brief but most enjoyable trip with a high tea at the Star and Garter Hotel.

— **NEWCASTLE HORTICULTURAL SOCIETY.**—In response to the appeal of the Mayor of Newcastle for subscriptions to meet the liabilities incurred by the disastrous gale announced in your last issue, the public have subscribed most handsomely, £525 being forthcoming up to Saturday, September 5th. This speaks well for the love of horticulture in the district. We trust the future efforts of the Society may be crowned with success.

— **WEATHER AT LIVERPOOL.**—Exactly one week has elapsed since the storm mentioned in last week's Journal, and now we have again to chronicle one of equal severity, but unaccompanied by the heavy rain which prevailed during the former. The wind blew from the S.W., and did much damage to forest and fruit trees. In many places the foliage of the forest trees is quite brown and cut to pieces, whilst under the fruit trees the ground was literally strewn with fruit. We counted 800 fine Beurré Diels, which were blown from a standard tree some thirty-six years old. Of course it is quite useless, and what remains on the tree is so bruised and blackened that it will never be of much use. We have had a little more sunshine it is true, but during the night and to-day we are having torrents of rain, accompanied by a strong S.W. wind.—R. P. R.

— **GARDENING APPOINTMENT.**—Mr. Charles Ritchings, for the last four years gardener to W. Lindsay, Esq., Brandries, Beddington, has been appointed gardener to Dr. Frankland, F.R.S., F.R.H.S., The Yews, Reigate Hill, Surrey.

— **WE** learn from an advertisement in the present issue that the **LEICESTER AND MIDLAND CHRYSANTHEMUM SOCIETY** will hold their fifth annual Show in the Temperance Hall, Leicester, on November 13th and 14th of the present year. The Hon. Secretary is Mr. W. Bell, Knighton Road.

— **EDUCATION IN GARDENING.**—From six candidates who were invited to attend Worcester last Saturday Mr. J. Udale was chosen as gardening instructor by the Committee of the Worcestershire Union of Workmen's Clubs and Institutes, a grant having been allowed by the County Council for the purpose in question. Mr. Udale is a sound practical gardener and competent man.

— **RAINFALL IN SUSSEX.**—The total rainfall at Cuckfield, Sussex, for August was 5.83 inches, being 3.53 inches above the average. This amount has only been exceeded on two occasions during the last twelve years—viz., October, 1880, when 8.23 inches fell, and October, 1882, when 6.86 was recorded. The heaviest fall was 1.18 inch on the 20th. This amount has been exceeded on eight occasions during the same period. Rain fell on twenty-five days. The highest temperature was 71° on the 14th, lowest 40° on the 30th. Mean maximum, 64.2°; mean minimum, 49.2°. Mean temperature, 56.7°; mean partial shade readings, 3.1° below the average.—R. I.



FIG. 36.—MR. J. HUNTER, LAMBTON CASTLE.

— **RAINFALL IN HAMPSHIRE.**—I have several times observed in your columns accounts of rain in various parts, and also that some exceeded the amount here. We are twelve miles N.W. of Southampton, and I think the rainfall here for August is extraordinary, and more than in some parts, as we have had during August 5.10 inches of rain. To those who observe the rain record it will be interesting to note how the storms vary.—A. J. LONG.

— **THE French Société de l'Encouragement** lately offered a prize of 1000 francs for **CONSERVATION OF POTATOES AND OTHER VEGETABLES**. Four of the five applicants used some isolating substance (woodash, sawdust, rye straw, with sand). M. Schribaux, who gained the prize, put Potatoes for ten hours in a 1½ per cent. solution of commercial sulphuric acid to kill the buds (a 2 per cent. solution for thick skins). The Potatoes are taken out and thoroughly dried, and they will keep without alteration more than a year. The same solution serves for repeated immersions, the concentration remaining constant. The process is not applicable to Onions. Another prize by the same Society (3000 francs) was awarded to M. Candlot for a memoir treating of the action of sea-water on cements. He shows that the sulphate of lime resulting from decomposition of sulphate of magnesia by lime salts of the cement combines with aluminate of lime to give a double crystalline salt containing half its weight of water. The crystallisation of a salt so greatly hydrated involves considerable swelling, and this accounts for the disaggregation of cements in marine work. M. Candlot has observed the curious fact that over-baked lime, which takes several days to extinguish in water, is extinguished in a few minutes in a 3 per cent. solution of chloride of calcium. This is thought to have important practical bearings.



— **TUREROUS BEGONIAS.**—Mr. F. Geeson, Cowdray Gardens writes:—"I enclose a few blooms of seedling Begonias for you to see, though they are not quite at their best. I have raised many hundreds of plants from my own seed and grown them out of doors, lifting the best as they bloom. I have doubles with perfectly upright stems, but not many of the largest; but they improve in that respect every year. They have not done so well outside with me this year, and are much later than usual, although at planting time our plants were larger." [The blooms referred to are the finest which have been sent to us by a private gardener. In form, substance, and colour they are alike excellent, and such examples would have been thought impossible a very few years ago.]

— **A PROFITABLE industry**, little heard of, is carried on among the hills of Connecticut (Sci. Am.). It is the **MANUFACTURE OF BIRCH OIL**, which is used largely for confectionery, and gives a perfect Wintergreen flavour. There are eight mills in the State—the first built only ten years ago. Birch brush without foliage, and not over  $2\frac{1}{2}$  inches in diameter from the Black Mountain or Sugar Birch (not the yellow or white), is chopped up and boiled with water in tanks. The steam, passing through an iron pipe near the top, is condensed in a coil immersed in running water, and drops into a glass jar. The oil is much heavier than water, and in the crude state is of copper hue. The mills work only from October to April. A good deal of adulterated birch oil is used in tanning leather to imitate Russia leather.

— **TOBACCO FERMENTATION.**—A very essential process is brought about by firmly packing ripe tobacco in large quantities. It had been generally supposed that the fermentation is of purely chemical nature, but Herr Suchsland, of the German Botanical Society, finds that a fungus is concerned in it. In all the tobaccos he examined, he found large quantities of fungi, though of only two or three species. Bacteriaceæ were predominant, but Coccaceæ also occurred. When they were taken and increased by pure cultivation, and added to other kinds of tobacco, they produced changes of taste and smell which recalled those of their original nutritive base. In cultivation of tobacco in Germany it has been sought to get a good quality, chiefly by ground cultivation and introduction of the best kinds of tobacco. But it is pointed out that failure of the best success may be due to the fact that the more active fermenting fungi of the original country are not brought with the seeds, and the ferments here cannot give such good results. Experiments made with a view to improvement on the lines suggested have apparently proved successful.—(*Nature*.)

— **WALNUTS.**—The approach of the Walnut season, says a daily contemporary, has prompted Mr. P. L. Simmonds to publish a few notes on this popular fruit. Few Kentish village greens are without their spreading Walnut tree, but we have an impression that Walnut planting has of late years suffered a considerable decline, and this is confirmed by Mr. Simmonds's statement that the greater part of the Walnuts consumed in England nowadays are of foreign growth. They average in quantity about a quarter of a million of bushels, and come chiefly from France and Belgium, Germany, Holland, and Italy contributing also in a less degree. In large market towns, where they are bought at first in the husks by the sack or bushel, they command a ready sale. When the nuts are fully ripe—that is, in September and October—the pickling and ketchup-making period is for the most part at an end, and the "wine and Walnut" time—somewhat injured by the decline of port in public estimation—may be said to have set in. We are bidden to beware of dry Walnuts. It is only when the skin can be easily removed that Walnuts are digestible and wholesome.

— **A LONDON daily paper** is responsible for the following:—"One of those things that Lord Dundreary would declare 'no fellow can understand' is that the four or five millions of people residing in the British metropolis are not capable of consuming the fruit which grows in their immediate vicinity, while they import hundreds of thousands of pounds' worth from distant lands. 'A Fruit Grower' writes:—"I have some 5 or 6 bushels of Morello Cherries absolutely rotting on the trees in consequence of the very low price offered by the middleman. Foreign fruit commands a higher price than English, simply because greater facilities are offered them by the railway companies. For instance, a sack of Potatoes weighing 168 lbs. can be sent from Jersey to London for 1s., but I was charged by the railway company 3s. 5d. for a distance of seven and a half miles only. I have the company's receipt in my possession. The Potatoes were sold for 6s., and after paying expenses 1s. was all I had left. Some Morello Cherries I sent up to Covent Garden, after paying expense of carriage, left me the sum of 1d. a pound, which did not pay me for the growing. As the Lord Mayor and Fruiterers'

Company have interested themselves in the production of fruit perhaps they would kindly show the small producer how to sell his produce. The only way I see is by causing markets to be formed at different centres, where fruit could be sent with the hope of a fair profit.' In this question the people of London have a deep interest. There seems to be a 'missing link' somewhere between the producer and consumer. In there being too much home-grown fruit we do not believe."



FIG. 37.—MR. A. KIRK, NORWOOD.

— **SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, 56 feet above mean sea level, for August.**—Mean temperature of the month,  $58.2^{\circ}$ . Maximum on the 14th,  $72.5^{\circ}$ ; minimum on the 5th,  $40.0^{\circ}$ . Maximum in the sun on the 20th,  $128.7^{\circ}$ ; minimum on the grass on the 5th,  $32.4^{\circ}$ . Mean temperature of the air at 9 A.M.,  $58.5^{\circ}$ . Mean temperature of the soil 1 foot deep,  $58.1^{\circ}$ . Total duration of sunshine in the month, ninety-five hours, or 21 per cent. of possible duration; we had two sunless days. Total rainfall, 3.11 inches; rain fell on twenty days. Average velocity of wind, 9.9 miles per hour. The velocity exceeded 400 miles on three days, and fell short of 100 miles on three days. Approximate averages for August:—Mean temperature,  $60.2^{\circ}$ ; rainfall, 2.52 inches; sunshine, 149 hours. A very dull, rather cold, showery, windy month. The nights were mild, but there were no hot days. Much less sunshine than in any of the previous ten years, except 1885.—J. MALLENDER.

— **ONION SHOW AT BANBURY.**—On September 3rd the valuable prizes offered annually by Mr. H. Deverill, Corn Hill, Banbury, were competed for at his seed stores, the display being open for the inspection of seed growers, the trade, and those interested in horticulture. Hundreds of fine specimens were shown of the types known as Deverill's Pedigree kinds, and weighing 16, 17, 18, 20, and 22 lbs. per dozen bulbs, and this is all the more remarkable considering the adverse season we have experienced. The most successful exhibitor was Mr. T. Wilkins, gardener to Lady Guest, Inwood House, Blandford, Dorset, his 144 bulbs being considered to be the finest lot ever staged by one grower. Other successful competitors in the classes devoted to gardeners were Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, Basingstoke, whose magnificent examples of Ailsa Craig were very noteworthy. Mr. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury; Mr. Wiles, Edgecote Park Gardens, Banbury; Mr. Lye, Sydmonton Court Gardens, Newbury; Mr. Kneller, Malshanger Park Gardens, Basingstoke, and others also exhibited. The competition in the class set apart for artisans, allotment holders, and cottage gardeners produced an interesting display of bulbs.

— **THE WEATHER AT RIPLEY, YORKS, DURING AUGUST, 1891.**—In common with other parts of the county we suffered from an excessively wet August, but we had no such terrific downpour that we learn from press reports visited some districts. Our greatest fall in twenty-four hours occurred on the 17th, when 0.60 inch was registered. The total rainfall for the month was 3.75 inches, which fell upon twenty-four days. Mean reading of barometer  $29.83^{\circ}$ ; mean max. temperature  $64.5^{\circ}$ ; mean min. temperature  $46.0^{\circ}$ ; mean temperature of month  $55.2^{\circ}$ . On the evening of the 25th, continuing to mid-day 26th, we were visited by a heavy gale, which played sad havoc among the plants in herbaceous borders, also thinning the Apple crop to an alarming extent. Not having an opportunity before, on September 3rd and 4th we lifted our early Potatoes for seed purposes and found



fully one-fourth affected by disease. The varieties were Sharpe's Victor, Improved Ashleaf, and Royal Ashleaf; they were all equally affected. The latter varieties keep very clear as yet. Harvest operations commenced here last week (September 2nd); crops are very indifferent owing to the heavy storms of wind and rain, also through the devastation caused by birds; one farmer told me yesterday that he had lost half his crop of Oats through the destruction caused by birds alone. Bright sunshine is sadly needed not only by farmers, but also by gardeners to finish off late Grapes, ripen up the wood of fruit trees, and to harden the Broccoli tribe to enable them to withstand the winter frosts.—J. TUNNINGTON, *Ripley Castle Gardens*.



FIG. 38.—THE LATE MR. C. STEWART.

### ROYAL HORTICULTURAL SOCIETY.

THE Drill Hall was not so full of exhibits on Tuesday last as on the occasion of the previous fortnightly meeting, but considering the season of the year the display was good.

**FRUIT COMMITTEE.**—Present: P. Crowley, Esq., in the chair, with Dr. Hogg, and Messrs. R. D. Blackmore, Harrison Weir, T. F. Rivers, A. H. Pearson, W. Warren, W. Bates, A. Dean, G. Noiman, J. Willard, H. Balderson, and J. Wright.

Mr. A. Gibson, gardener to T. F. Burnaby Atkins, Esq., Halstead Place, Kent, sent a medium sized, well-netted, green-flesh Melon of good quality, and a certificate of merit was awarded. Mr. Harding, gardener to T. Philpot, Esq., Vale Road, Guernsey, sent a large handsome Melon, the result of a cross between Golden Perfection and Orion, but though juicy and sweet was deficient in flavour, and no award was made.

Messrs. Keynes, Williams & Co., Salisbury, sent a dish of a red seedling Plum, which, though good, was not considered sufficiently distinct and meritorious to be granted a certificate. Mr. P. Crowley placed on the table some splendid specimens of Jefferson Plums from a branch on which a wire ligature had been accidentally left. This arrested the downward current of sap, causing a prominent enlargement of the branch above the ligature, the sap being "held," so to say, in the branch for supporting the fruits. The largest weighed 4 ozs. The fruits on the other parts of the tree were not half the size. It was really a case of "ringing," but this does not always have such marked results. A vote of thanks was accorded. Mr. P. Crowley also placed on the table nineteen excellent fruits, the largest weighing 6 ozs., of Louise Bonne of Jersey Pears from a tree grown in a 10-inch pot by his gardener, Mr. W. King. The tree was placed under glass in March and removed to the open air in June, where the crop ripened. A cultural commendation was awarded.

Messrs. G. Jackman & Co. sent from Woking a dish of a new seedling Apple, Victoria, having some resemblance to Duchess of Oldenburg, but sweeter, though not so good as Irish Peach. No award was made. Mr. Lee, Clevedon, Somerset, sent a seedling Apple somewhat resembling the Devonshire Quarrenden, but larger and not so good. It was passed by the Committee. Mr. Roupell sent excellent specimens of Apples Lord Suffield, Duchess of Oldenburg, and Bietigheimer, a large red German Apple, and a cultural commendation was unanimously awarded. Mr. W. Whiteley sent a dish of Hillingdon Favourite Tomato, bright medium fruit, for which a vote of thanks was recorded. Messrs. Jas. Veitch & Sons staged nearly fifty varieties of Plums, for which a silver medal was recommended. In the collection was a dish of Frogmore Orleans, a variety not known by the Committee, and said not to split like many others during wet weather.

The records of a meeting held at Chiswick on Thursday last were read, when after examining a number of Potatoes and cooking them three marks (xxx) each were granted for Mottled Beauty, Ellington's Prolific, and Crawley Prizetaker. Three marks were also recorded for the following Turnips:—Early Milan, Early White Strap-leaf American, Large White Globe Purple Top, and Large Green Globe.

Similar marks were granted for Tomatoes Golden Sunrise, Sutton's Golden Nugget, and Italian Wonder, all having yellow fruits.

Scarlet Runners had been so much injured by the wet that no fair estimate could be formed of their merits, except in the case of Sutton's Tender and True, a most productive variety of moderate growth, having fine tender pods of the same character as those of the dwarf varieties but larger. It is a distinct and excellent variety, and was granted a first-class certificate.

**FLORAL COMMITTEE.**—Present: Messrs. W. Marshall (in the chair), C. T. Druery, H. B. May, R. Dean, G. Phippen, J. T. Bennett Poë, G. Paul, C. Noble, J. Fraser, and W. Watson.

A very large collection of Gladioli came from Messrs. Kelway and Son, Langport, quite in their best vein. It comprised some of the best of their magnificent collection of varieties, such as Pandanus, salmon with purple throat; Mrs. J. Eyton, white suffused and feathered with rose; Lassia, rich scarlet; the Rev. J. Stubbs, brilliant scarlet, carmine throat; W. S. Gilbert, described below; Sheila, also described below; Harrison Weir, orange scarlet; Beauty of England, white, throat flaked purple; and Baroness Burdett Coutts, rosy mauve; but there were many others equally beautiful. They also had a display of hardy flowers, including varieties of Papaver nudicaule, Rudbeckia purpurea, Phloxes, Solidago altissima, Anemone japonica rubra, a deeper form of the well-known Japanese Windflower, and Dracocephalum speciosum. A silver Flora medal was awarded.

Mr. G. Phippen, Reading, had a collection of herbaceous Phloxes, named varieties, amongst the best being Miss Robinson, white; Vesuvius, deep rose; Paragon, purplish violet; and Mons. Luney, crimson. He also had a large group of Liliiums interspersed with Ferns and foliage plants, which was very effective, and a group of Cactus and Decorative Dahlias similar to that exhibited at the Show of the National Dahlia Society, the flowers being in bunches of about twenty-four, and interspersed with Ferns. Such excellent varieties as Robert Maher, Panthea, Zulu, W. Pearce, Professor Baldwin, Empress of India, Mrs. Hawkins, Beauty of Brentwood, Honoria, Henry Patrick, and Juarezi were represented. A silver Flora medal was awarded for this group, and another for the Liliiums. Mr. Phippen also showed a box of Lapagerias.

British Ferns were an interesting feature of the meeting. C. T. Druery, Esq., F.L.S., Fernholme, Forest Gate, Essex, had a collection of select varieties, embracing a beautiful form of Polystichum angulare named divisilobum plumosum densum, Scolopendrium vulgare var. crispum majus, S. v. var. grandiceps, S. v. Keratoides, S. v. ramo-cristatum, Athyrium filix-femina seticerum pinceristatum, Polystichum angulare var. plumosum, P. a. var. revolvens, and many other forms. E. J. Lowe, Esq., F.R.S., Chepstow, had a large exhibit of Ferns in many varieties, amongst them Nephrodium paleaceum var. Willsi, N. p. var. ramosissimum, N. p. depauperatum, Scolopendrium vulgare crispum var. Kitsoniae (L.), S. v. undulatum var. cochleato-cristatum, Asplenium filix-femina flexuosum var. Cymba, A. f.-f. torquera, A. f.-f. grandiceps



FIG. 39.—MR. W. YOUNG

var. Arthuri, Osmunda regalis var. capitata, Aspidium angulare divisilobum var. laxum, A. a. decompositum var. frondosum, Adiantum Capillus-Veneris var. Lowæ, Scolopendrium vulgare marginatum var. corollarium, S. v. crispum robustum, and many other good forms. Mr. Lowe also had two baskets of Ferns. Several were honoured by the Committee as noted below. In the competition for the best collection Mr. Lowe was placed first and Mr. Druery second, the former receiving also a silver Flora medal.

A small but highly interesting group of plants came from the Royal Gardens, Kew, the central figure of which was an extraordinary flower of Aristolochia grandiflora (syn. A. gigas), 18 inches across, and with a "tail" 3 feet long. The flower is creamy white, deeply marked with brownish purple, and the capacious throat is velvety purple. There were also Ixora macrothyrsa, Clematis Stanleyi, Mucuna purpurea, and Solandra grandiflora. Messrs. Paul & Son, The Old Nurseries, Cheshunt, sent a Dahlia named Claxton's Harlequin, described below; a box of Roses, Liatris pycnostachya, Actaea fructo alba, Spiraea japonica compacta, Sarracenia purpurea, Spiraea palmata alba, Lythrum salicaria.



roseum, and *Lilium* Mrs. Anthony Waterer, white dotted with red. Mr. Hole, Commercial Road, Teignmouth, had *Carnation* Devon Beauty. Mr. Whiteley, Hillingdon, Uxbridge, showed a *Chrysanthemum* named Mrs. Whiteley, a large white flower with fluted florets. Mr. C. G. Van Tubergen, jun., Haarlem, had a small collection of hybrid *Gladioli*, for which a bronze Banksian medal was awarded; and Mr. J. Walker, Thame, was commended for an excellent strain of Quilled Asters. Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Chelsea, had *Lilium auratum rubro-vittatum*, *L. a. virginale*, *L. a. platyphyllum*, *Francoa ramosa*, freely flowered; *Hydrangea paniculata*, and *Abies* (*Picea*) *Omorika*, referred to below. A bronze Banksian medal was awarded.

First-class certificates and awards of merit were adjudged to a number of Ferns; but interesting as the many varieties are to specialists,



FIG. 40.—MR. M. DUNN, DALKEITH.

it is practically impossible to indicate their special characteristics in a brief description. They were as follows:—First-class certificates to Mr. Druery for *Athyrium filix-fœmina plumosum Drueryi*, and to Mr. Lowe for *Scolopendrium vulgare crispum decorum*, *S. v. supralineatum Moonæ*, *S. v. rameo inæquale laudabile*, *Asplenium filix-fœmina luvulatum Wellsiæ*, *Aspidium angulare grandiceps tæda*, *A. a. cruciatum Nymphæ*, *A. aculeatum cristatum hybridum*, *Nephrodium paleaceum Wellsiæ*, and *Osmunda regalis capitata*. Awards of merit to *Athyrium f.-f. superbum densum* and *A. f.-f. revolvens* from Mr. Druery. Also to the following from Mr. Lowe:—*Scolopendrium vulgare muricatum superbum*, *S. v. m. crispum*, *Aspidium angulare grandiceps coronale*, *A. a. setosum gracile*, *A. a. plumoso-divisilobum gracile*, *A. aculeatum cristatum adrastia*, and *Asplenium Ceterach* var. *multifolia cristatum*. Botanical certificates were awarded to him for *Scolopendrium vulgare peraperens nepenthesoides* and *Aspidium aculeatum cristatum circumglobatum*.

Awards of merit were made to the following flowers:—Show *Dahlia* Arthur Rawlings, deep crimson, exhibited by W. Keith, Esq. (gardener, Mr. J. T. West), Cornwall, Brentwood; Show *Dahlia* William Powell, rich yellow, well formed, from the same exhibitor; Decorative *Dahlia* Mrs. Keith, a combination of rose and yellow, the former suffusing the florets somewhat deeply, same exhibitor; Decorative *Dahlia* Claxton's Harlequin, yellow, flaked and streaked with crimson, from Messrs. Paul and Son, Cheshunt; *Gladiolus* George Meredith, white heavily flaked with crimson, pale yellow throat (this and the following *Gladioli* came from Messrs. Kelway & Son); *Gladiolus* Lady Brooke, ivory white, with a few short streaks of crimson; *Gladiolus* W. S. Gilbert, salmon with paler throat, excellent form; *Gladiolus* Sir Arthur Sullivan, brilliant scarlet, splendid spike; *Gladiolus* Sheila, white, purplish carmine throat; *Croton* Golden Ring, a graceful variety with slender twisted leaves, yellow marbled green, exhibited by Mr. H. B. May, Edmonton.

Botanical certificates were awarded to Messrs. James Veitch & Sons for *Abies* (*Picea*) *Omorika*, a graceful species from South-east Europe, with dark green foliage; and for *Davallia assamica*.

ORCHID COMMITTEE.—Present: Dr. Masters (in the chair), Messrs. Jas. O'Brien, E. Hill, C. Pilcher, H. Ballantine, A. H. Smee, and T. B. Haywood. A first-class certificate was awarded to Baron Schröder (gardener, Mr. Ballantine) for *Miltonia Bluntii* var. *Lubbersiana*, a large flowered form, the sepals dull greenish grey nearly covered with broad brown blotches, the lip white very faintly suffused with rose, the upper portion, as also the base of the sepals, purplish mauve, lined and blotched with brown. Messrs. Hugh Low & Co., Clapton, received a botanical certificate for *Mormodes buccinator* var. *aurea*, with small deep yellow flowers. A similar award was made to them, and also to W. Wright, Esq., Denmark Hill (gardener, Mr. G. Parrott), for *Cataseum fimbriatum*, an interesting form, with green lip and throat, sepals and petals light green dotted with brown. Messrs. F. Sander & Co., St. Albans, received a similar award for *Cattleya granulosa* var. *dijancaana*, a peculiar form, the solitary flower having sepals of a light brownish green, and a small fringed magenta coloured lip. They also exhibited *Vanda Hookeriana*, *Cattleya crocata rosca*, *Lælia elegans Robinsoniana*, *L. e. marlbroughensis*, *L. e. Turneri*, *Vanda cærulea*, *Peristeria elata*, and *Dendrobium undulatum*. T. Statter, Esq., Stand

Hall, Manchester (gardener, Mr. Johnson), exhibited *Lælia elegans Turneri atro-rubens*, *L. e. Turneri* Stand Hall variety, *L. e. blenheimensis*, *Mesopitidium vulcanicum*, *Odontoglossum Harryanum superbum*, and *Saccolabium Blumei longiracemosum*. A vote of thanks was awarded. D. O. Drewett, Esq., Riding Mill-on-Tyne (gardener, Mr. Keeling), had *Cypripedium Beatrice* and *C. Eyemannianum* Drewett's var. C. J. Lucas, Esq., Warnham Court, Horsham, received a cultural commendation for *Angræcum articulatum*, and Messrs. Charlesworth, Shuttleworth & Co. Heaton, Bradford, a vote of thanks for *Oncidium macranthum* var., a freely flowered deep yellow form.

#### CARNATION SOUVENIR DE LA MALMAISON.

VERY rarely do we see these beautiful flowers grown to such perfection in a private establishment as their merits deserve. Their culture being simple, and fire heat not necessary, amateurs with only an unheated structure should include them in their collections. They are easily increased by cuttings or layers, the latter being the surer and quicker method, besides being more likely to afford strong plants. About the middle of July, when the plants have flowered, they should be taken out of the pots and planted deeply in a warm south border in which a quantity of leaf mould and sand has been incorporated. The shoots can then be pegged down and layered about 6 inches from the tops, for if too low they never make such good plants. In about a month, if the operation has been successful (watering in dry weather being well attended to), they will be well rooted and ready for potting. Three-inch pots are the best, the compost being three parts loam, one part leaf mould, and a dash of coarse sand.

After potting stand them on ashes in a cold frame, the lights being left off as long as there is no danger of severe frosts or too much rain. During winter they are best kept in a house from which frost is excluded, as near the glass as possible. A look out must be kept for green fly, which is apt to attack them in all their stages, fumigation on two or three successive evenings, or where that is inconvenient an occasional dusting with tobacco powder, being efficacious. When they show signs of renewed growth in the spring they may be shifted into their flowering pots, 6 or 7 inches being most suitable. For this potting some horse droppings, prepared as for Mushroom beds and rubbed through a sieve, may be mixed with the soil. The plants should have as light and airy a situation as possible, no advantage being derived from hurrying their growth. Where large blooms are desired some of the buds may be cut away, leaving five or six to the spike. When the buds are swelling a little feeding, either with liquid manure or some good plant invigorator used as a top-dressing, may be applied with advantage. Some of the side shoots will throw up flower stems in the autumn, which can be developed with a little heat. A fresh annual stock should always be maintained, one year plants giving by far the best results.—O. C.

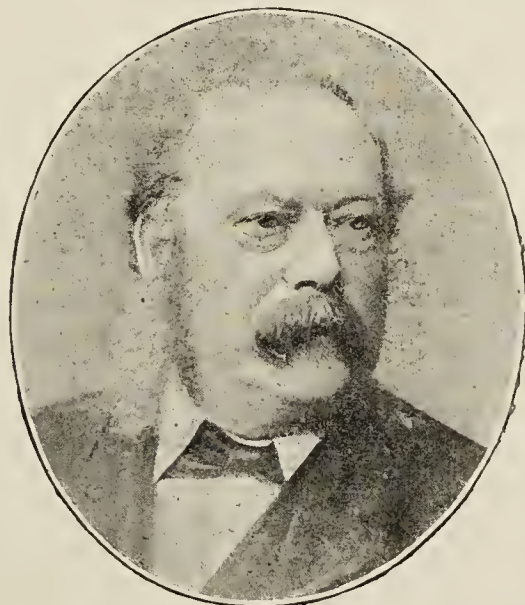


FIG. 41.—MR. A. A. MCLEOD.

#### NATIONAL DAHLIA SOCIETY.

SEPTEMBER 4TH AND 5TH.

GLOOMY skies, with the concomitant absence of sunshine, heavy rains, boisterous winds, and low temperatures have combined to make the *Dahlia* exhibitor's lot the reverse of a happy one this season. That other specialists have suffered in a similar manner is, according to the gospel of Rousseau, some consolation, but otherwise it does not mend matters. Roses were backward, Carnations were backward, Dahlias are backward. There has been an all-round retardation in the flower gardens as well as in the corn fields of wettest England, and following as it does on the cold summer of last year, and the severe winter that succeeded, gardeners will begin to feel uncomfortable misgivings that Flammarion's prophecy of another glacial epoch may not, like others of that accomplished savant's ideas, be so absurd as many have supposed.

Last year a fine autumn enabled Dahlias to do yeoman's service in compensating for summer disappointments, and although the start is not promising, it is not too late to hope that we may be similarly favoured this season. So far the cold and wet have greatly retarded



the opening of the flowers, as many who do not exhibit have found to their sorrow, and it was therefore to be expected that the Dahlia Society's Show would suffer in some measure from the same cause. Such anticipations of this nature as were formed were fully realised. The supply of tabling proved to be far more than adequate for the exhibits, and the ominous gaps between the stands told their own story. The amateurs' section was very weak in point of quantity, but the nurserymen's classes were better filled. Naturally the southern and western exhibitors had matters nearly all their own way; doubtless the flowers of northern growers are still far from ready.

The quality of the flowers was, on the whole, admirable, and probably turned out to be much better than many had expected. Taken altogether, the Show and Fancy varieties seemed to be somewhat lacking in weight, but in other respects they were excellent, and as breadth and substance of petal, form, and correctness of colour are more important than mere size, there was very little cause for complaint. A point worth noting is the unmistakeable manner in which the Pompons and singles were eclipsed by the Cactus and Decorative varieties. The latter have now developed into a most important and beautiful group, and they are of such value for garden decoration and cutting that their growth in numbers and diversity is cause for satisfaction. They have sprung up since the late Mr. Shirley Hibberd prophesied that the Pompons would in course of time acquire the leading position, and have already far outstripped the latter. The following are particulars of the Show.

#### NURSERYMEN.

The principal class for Show and Fancy varieties intermixed was for sixty blooms. There were five stands in competition, and that of Mr. C. Turner, Royal Nurseries, Slough, was ultimately selected as the best. Perhaps in point of size his flowers, like those of the other exhibitors, were a shade below the average, but in form, substance, freshness, and colour they were unexceptionable. The varieties were as follows:—Back row: Wm. Rawlings, Earl of Ravensworth, Comedian, Prince Bismarck, Rev. J. B. M. Camm, Geo. Rawlings, Mrs. Langtry, Colonist, Rev. J. B. M. Camm (self), Harry Keith, Henry Walton, Rebecca, John Bennett, Maud Fellowes, T. W. Girdlestone, John Standish, Clara, Statesman, Miss Cannell, and Old Tom. Middle row: Matthew Campbell, Mr. Harris, Alice Emily, a seedling of the same shade as Mr. Harris; Mrs. Slack, Glow-worm, Zorina, Jas. Cocker, Ethel Britton, J. Hickling, a dark crimson seedling; Mrs. Saunders, Miss Fox, Crimson King, J. T. West, Mrs. Gladstone, Goldfinder, Excellent, R. T. Rawlings, and Bendigo. Front row: Emily Edwards, Mrs. Foster, John Henshaw, Robert Turner, Sunbeam, Agnes, Mrs. Harris, Jas. Green, Florence, J. Ashby, Seraph, Burgundy, Nellie Tranter, Flag of Truce, Mrs. Hodson, Willie Garrett, Chas. Wyatt (mauve self), Georgina, Lustrous, and Primrose Dame. Messrs. Keynes, Williams, and Co. were second with flowers in admirable condition, but hardly so heavy as the first prize lot. John Hickling, Nellie Cramond, T. W. Girdlestone, Mrs. Jefford, Clara, Jas. O'Brien, and Ethel Britton were extremely good. The third prize went to Mr. A. Rawlings, Romford, for somewhat small but well-coloured flowers; and the fourth to Mr. M. V. Seale, Vine Nurseries, Sevenoaks. There was one other stand.

Class 2 called for forty-eight blooms, Show and Fancy intermixed, and brought several very good stands. Messrs. Keynes, Williams & Co. were placed first, flowers somewhat undersized, but broad in petal, and good in form and colour. They had the following varieties. Back row: Thos. Hobbs, Royal Queen, a scarlet sport from Duchess of Albany; Rev. J. B. M. Camm (very good), Wm. Rawlings, Jas. O'Brien, Mr. Glascock, Agnes, Edmund Boston, Henry Walton, Colonist, Mrs. McKenzie, Nellie Cramond, Coronet, Miss Cannell, and Harry Keith. Middle row: R. T. Rawlings, King of Crimson, Shirley Hibberd, Mrs. Saunders, Frank Pearce, Nero, Joseph Ashby, Duchess of Albany, Gaiety, R. Dean, Queen of the Belgians, Goldfinder, Mrs. J. Downie, Mrs. G. Herbert, Jas. Cocker, and John Hickling. Front row: Mr. Spofforth, Mrs. Langtry, J. T. Vaughan, John Henshaw, Hercules, Mrs. Gladstone, Prince of Denmark, Comedian, a very dark crimson sport from Rebecca; R. T. Rawlings, Mrs. Foreman, Prince Bismarck, Eclipse, T. S. Ware, Miss Barber and Dorothy. A fine stand from Mr. A. Rawlings, in which George Gordon (splendid), Maud Fellowes, Geo. Rawlings, R. T. Rawlings and Mr. Glascock were conspicuously good, secured him the second prize, the third going to Mr. Turner, and the fourth to Mr. Seale, both having good stands.

There were five stands of thirty-six blooms, and Mr. G. Humphries, Kington Langley, Chippenham, was placed first for Duchess of Albany, F. Pearce, Agnes, W. Rawlings, all fine blooms; Ethel Britton, Harry Turner, J. W. Lord, Salamander, Hope, Hercules, Mrs. Kendal, G. Barnes (self), Mrs. Saunders, Jas. Stephens, Mrs. Langtry, Jas. Cocker (very good), Colonist, Maud Fellowes (beautiful), Nellie Cramond, Goldfinder, Sunset, Shirley Hibberd, Jos. Ashby, Mrs. D. Saunders, Mrs. Gladstone, Lustrous, Royal Queen, Crimson King, Rebecca, Mr. J. Downie, Rosetta, R. T. Rawlings, Major Clarke, Mrs. Harris, Matthew Campbell, and Willie Garrett; these were an even, fresh lot of flowers. Messrs. Saltmarsh & Son, Chelmsford, were second, and they had Frank Pearce, R. T. Rawlings, Mr. Glascock, Jas. Cocker, Goldfinder, Willie Garrett, Mrs. Foreman, and Miss Cannell in capital condition. The third prize went to Mr. J. Walker, Thame, for a heavy lot of flowers slightly lacking finish, and the fourth to Mr. S. Mortimer, Rowledge, Farnham, one other competing. There were five stands of twenty-four, the best being a beautiful collection from Mr. Humphries, which, though not large, were in splendid condition; they were so even that it was difficult to pick out any that were exceptionally good. The varieties were Duchess

of Albany, Mrs. J. Downie (scarlet self), R. T. Rawlings, Wm. Rawlings, Mrs. Saunders, Harry Turner, Maud Fellowes, Frank Pearce, Prince of Denmark, Mrs. Humphries, Jas. Stephen, Mrs. Gladstone, Nellie Cramond, Agnes, Colonist, Mr. John Downie, Hope, Lustrous, J. T. West, G. Barnes (self), Ethel Britton, Wm. Keith, Edmund Boston, and Rosetta. Mr. J. Walker secured the second award with an excellent stand. Mr. Mortimer was third and Messrs. Saltmarsh & Sons were fourth. The best of the six stands of twelve came from Mr. J. R. Tranter, Henley-on-Thames, consisting of neat fresh examples of Henry Keith, Mrs. Gladstone, Willie Garrett, J. T. West (two seedlings), Jos. Ashby, Geo. Rawlings, Harrison Weir, John Standish, Chorister, and a crimson variety marked "Unknown." Mr. H. Harris, Writtle Road, Chelmsford, was second, his best blooms being Mrs. Gladstone, Frank Pearce, and Mr. Glascock. Messrs. Cheal & Sons, Crawley, were third, and Mr. George Gilbert, Ipswich, fourth.

Cactus and Decorative varieties in bunches of six blooms formed some extremely beautiful stands, the rich and distinct colours of the flowers giving a most pleasing effect. Messrs. Keynes, Williams & Co. had the best twelve, the varieties being St. Catherine, a new and good yellow; Juarez, Mrs. Hawkins, the richly tinted seedling Baron Schröder, which received an award of merit from the R.H.S. recently; Duke of Clarence, Countess of Pembroke, a beautiful seedling, with pale mauve flowers; Mrs. Arthur Newall, deep brownish red, new; a yellow seedling, unnamed; Kynereith, the new scarlet, a splendid variety; Viscountess Folkestone, pale yellow seedling; Lancelot, and Dr. Masters, a seedling, with pale mauve tinted flowers, hardly of the correct Cactus type. Messrs. Cheal & Sons also had a fine stand, in which the new Beauty of Arundel, crimson, shaded carmine; Black Prince, Mrs. G. Reid, Harry Freeman, and Empress of India were very noteworthy. They were placed second. The third prize went to Mr. M. V. Seale for a very bright and fresh stand, and Mr. C. Turner was fourth. Messrs. Cheal & Sons turned the tables on the winners in the above class with nine Cactus varieties only, winning with a very beautiful stand in which Beauty of Brentwood, rich purplish magenta; Juarez, Mrs. Hawkins, Panthea, and Amphion were exceptionally good. Mr. Seale was second with Honoria, Juarez, Panthea, and Henry Cannell as his best; and Messrs. Keynes, Williams & Co. third with a somewhat crowded stand of smaller flowers. For a similar number, in which Decorative varieties were admitted, Messrs. Burrell & Co. won with a very good stand, Robert Maher, Juarez, Mrs. Hawkins, Mrs. G. Reid, Mrs. Douglas, Black Prince, H. Freeman, Amphion, and Professor Baldwin being all admirably shown. Messrs. Paul & Son, the Old Nurseries, Cheshunt, were second with a very fresh, well-coloured collection, and Mr. G. Humphries third.

Pompons were extensively shown, and on the whole were very bright in colour. The principal class was for twenty-four varieties in bunches of ten, and Messrs. Keynes, Williams & Co. were placed first for a delightful stand. The flowers were under rather than over-sized, which is a fault in the right direction, and in very fine condition. The varieties were Darknesh, Phoebe, Rosalie, Lady Blanche, White Aster, Grace, Heeter, Little Darkie, Dora, Golden Gem, Isabel, Airy Fairy Lillian, a charming seedling with medium-sized flowers of a soft rosy mauve; Crimson Beauty, Whisper, Eurydice, E. F. Jungker, Red Indian, Leila, Favourite, Karl Goldenburg, Mdle. Faconet, Janet, Achilles, and Admiration. Messrs. Cheal & Son followed very closely—so closely that there could have been very few points between the two stands. Their flowers were very fresh and good in colour. Achilles, Othello, Admiration, Little Bobby, Isabel, and Favourite were charmingly represented. Mr. C. Turner was third with another capital box; and Mr. Such, Maidenhead, fourth. With twelve varieties Messrs. Paul and Son were first, having an exceptionally good box, the varieties being E. F. Jungker, Grace, Iolanthe, Darknesh, Rosalie, Mignon, Kammerherr Van Hinkel, Red Indian, Admiration, Eurydice, Nymph, and H. Milesky. Mr. Humphries was second with a very neat stand, and Messrs. Burrell & Co. third.

Single varieties exhibited a great falling off in numbers, and the quality was not up to the average. Messrs. Cheal & Son won from three competitors with twenty-four bunches of ten, and if not up to their highest standard it was, considering the season, of great excellence, the flowers being in good condition—clear, bright, and fresh. The varieties were Duchess of Fife, Victoria, Mrs. Coninck, Duchess of Westminster, Mrs. Bowman, T. W. Girdlestone, Jas. Seobie (orange sport), Miss Henshaw, Amos Perry, Hugo, Beauty of Uplands, Miss Jefferies, Gulielma, Northern Star, Marie Linden, Cleopatra (new dark maroon), Alba Perfecta, W. C. Harvey, Miss Glascock (a new variety, honoured by the R.H.S.), Cetewayo, Eclipse, Miss Roberts, and Formosa. Mr. M. V. Seale also had a very rich and diversified stand, which included a new white variety named Mrs. W. Seale, growing only 2½ feet high, and was placed second, Messrs. Paul & Son, Cheshunt, being third, and Mr. Such fourth. There was no entry with twelve varieties.

#### AMATEURS.

The amateurs' classes were somewhat thin, but they comprised some very good stands. Mr. J. T. West, gardener to W. Keith, Esq., Cornwall, Brentwood, had the best stand of twenty-four Shows and Fancies intermixed, and they were unmistakeably a beautiful collection of flowers, being of large size and superbly coloured. The varieties were Arthur Rawlings, R. T. Rawlings, Harry Keith, Maud Fellowes, Mrs. Gladstone, John Henshaw, Matthew Campbell, Shirley Hibberd, Prince of Denmark, Mrs. Langtry, Glow-worm, Frank Pearce, Duke of Fife, Mrs. Saunders, Harry Turner, Clara, J. T. West, Wm. Rawlings, Henrietta, Lord Chelmsford, Willie Garrett, Henry Glascock, Mrs.



D. Saunders, and Wm. Powell. These formed one of the very best stands in the Show. Mr. T. Hobbs, St. Mark's Road, Easton, Bristol, was second with a good stand of somewhat smaller flowers, the best being J. T. West, W. Rawlings, Jos. Ashby, Mr. Harris, and Mrs. Foreman. Mr. H. Glascock, Rye Street, Bishop's Stortford, was third with small, but very fresh and well finished flowers, the remaining prize going to Mr. W. Mist, Ightham, Sevenoaks. There were six stands of twelve Show blooms, and Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, won with fine blooms of W. Rawlings, Clara, Prince of Denmark, R. T. Rawlings, Maud Fellowes, Mrs. D. Saunders, Mr. Glascock, John Standish, Mr. Gladstone, Majestic, Geo. Rawlings, and Mr. G. Harris. Mr. S. Cooper, Chippenham, also had a very even and fresh collection of flowers, and was placed second, his R. T. Rawlings being a very fine bloom. Mr. Thos. Anstiss, High Street, Brill, was placed third, and Mr. G. Boothroyd, Red Hill, Havant, fourth. There were nine stands of six blooms, and Mr. J. Gilbert, Brocklands, Freshwater, Isle of Wight, won with J. T. Saltmarsh, Willie Garrett, Florence, Earl of Ravensworth, Mrs. Gladstone, and Jos. Ashby. Mr. Gibbs, Ightham, Sevenoaks, was second with Imperial, Mrs. Langtry, Miss Cannell, James Vick, Mrs. Gladstone, and Harrison Weir. Mr. J. Couzens, Langley's Burrell, Chippenham, was third, and Mr. Vagg, gardener to J. Theobald, Esq., M.P., Bedford, Havering, fourth.

Mr. West's was the best stand of twelve Fancies, a very even and fresh lot of flowers, the varieties being Professor Fawcett, Mrs. Saunders, Duchess of Albany, Rev. J. B. M. Camm, Buffalo Bill, Henry Eckford, Egyptian Prince, Hugh Austin, Chas. Turner, Comedian, John Britton, and Henry Glascock. Mr. S. Cooper was a very good second, his Duchess of Albany, Edmund Boston, Frank Pearce, and Dorothy being admirable. Mr. Glascock was third with smaller examples. There were eleven stands of six, Mr. Ocock winning with Peacock, Mrs. Saunders, Rev. J. B. M. Camm, Frank Pearce, Mrs. N. Halls, and Hugh Austin, all fine flowers. Mr. Boothroyd was second with Mrs. Saunders, very good; Mr. Mist third with Frank Pearce as one of his best; and Mr. Couzens fourth.

Cactus and Decorative varieties were but thinly shown. What there were, however, were good. Mr. West won with six bunches, showing Glory of Brentwood, Marchioness of Bute, Mrs. Rolfe, Mrs. Keith, Black Prince, and Mrs. Douglas. Mr. Perry, gardener to J. C. Tasker, Esq., Middleton Hall, Brentwood, was second with good flowers, but too flatly arranged to be effective; and Mr. C. Osman, South Metropolitan District Schools, Sutton, was third. These varieties in bunches of three were ineffective. Mr. Glascock won with Black Prince, Marchioness of Bute, Robert Maher, Mrs. Hawkins, Harry Freeman, and Edmund Wakley. Mr. E. Mawley, Berkhamsted, was second with Panthea, Juarez, Mrs. Hawkins, Zulu, Asia, and Honoria, small, but very attractive, Mr. S. Cooper third, and Mr. Hy. Gibbs fourth. There were two other stands.

Pompons were also scantily shown. Mr. West won with six varieties in bunches of ten, showing Fair Helen, Darkness, Fairy Tales, Grace, Leila, and Isabel; Mr. Glascock was second with very neat flowers, and Mr. Perry third. Mr. Cooper won with six varieties, six flowers of each; Mr. C. Stew, Croydon, being second; Mr. Mist third, and Mr. R. C. West, Northlands, Salisbury, fourth. There was not much to pick between any of these.

Singles were few and weak. Mr. T. W. Girdlestone won with Annie Hughes, Demon, Lady Helen, Gwendolen, Yellow Perfection, and Bessie Hatton, for six varieties in bunches of ten; Mr. Glascock second, and Mr. Osman third; none were of a very high order. Mr. Mawley was the only exhibitor with bunches of six in six varieties, and was placed first for W. C. Harvey, Victoria, Amos Perry, Miss Henshaw, Miss Roberts, and Sunningdale White. For twelve varieties, the same number of flowers to a bunch, Mr. Girdlestone again took the premier award, his varieties being Mary Evelyn, Gwendolen, Maize, Mikado, Phyllis, Marion Hood, Irene, Hester Dorothea, Sunningdale White, Edie Clegg, Tessa, and Ruth; Mr. Osman, the only other competitor, was placed second.

#### OPEN CLASSES.

In the one variety class the competition was pretty brisk. There were nine stands of dark varieties, Mr. Turner being first with Wm. Rawlings; Messrs. Keynes, Williams & Co. second with the same variety; Mr. A. Rawlings third with Geo. Rawlings; and Mr. J. T. West fourth with Arthur Rawlings. There were seven stands of light varieties, yellow excluded. Messrs. Saltmarsh & Son were first, Mr. H. Gibbs second, Mr. Seale third, and Mr. A. Rawlings fourth, all with Mrs. Gladstone. The same number competed with a yellow variety, Mr. A. Rawlings being first, and Messrs. Keynes, Williams & Co. second, with R. T. Rawlings; Mr. Mortimer third with Jos. B. Service, and Mr. J. T. West fourth with Wm. Powell. For six of any tipped Dahlia Messrs. Saltmarsh & Son were first with Mrs. Saunders, Mr. A. Rawlings second, Messrs. Keynes, Williams & Co. third, and Mr. Stew fourth, with the same variety. There were seven stands of striped, Messrs. Saltmarsh & Son being first with Frank Pearce, Messrs. Keynes, Williams & Co. second with Mrs. John Downie, Mr. Humphries third with the same variety, and Mr. A. Rawlings fourth with Frank Pearce. In the edged class Mr. J. T. West was first with his namesake, Mr. Seale second with Henry Walton, Messrs. Saltmarsh third with J. T. West, and Mr. A. Rawlings fourth with T. J. Saltmarsh.

The miscellaneous exhibits were extensive and attractive. Messrs. Cheal & Son had a collection of their Tom Thumb Dahlias in pots; a very bright display, which received a good deal of attention. Messrs. Wm. Paul & Son, Waltham Cross, had a large and very fine assortment of flowers and fruit in the auditorium, the former comprising Roses,

Dahlias, and herbaceous flowers, and it was much admired. Mr. T. S. Ware, Tottenham, had a brilliant collection of single and double Begonias, to which popular flowers he is now giving much attention, also a fine display of Dahlias. Messrs. H. Cannell & Sons, Swanley, exhibited a splendid stand of Dahlias and Begonias, the former mainly composed of Cactus and Decorative varieties, comprising the best in cultivation, the latter representing the excellent qualities of the Swanley doubles. Mr. W. Piercy of Forest Hill had a collection of early Chrysanthemums, as had Mr. H. J. Jones, Lewisham, and Messrs. Reid and Bornemann, Sydenham. Messrs. J. Laing & Sons, Forest Hill, had an admirable group of their well-known Begonias, and also a beautiful display of herbaceous flowers. Messrs. Paul & Son, the Old Nurseries, Cheshunt, were represented by an interesting assortment of hardy plants. Mr. G. Phippen, Reading, had a very attractive display of Cactus and Decorative Dahlias, and Mr. Such, Maidenhead, had a large stand of hardy flowers.

First-class certificates were awarded to the following Dahlias—\*St. Catherine, yellow Cactus; \*Kynereith, rich orange red Cactus; \*Baron Schröder, rich magenta Cactus; and Airy Fairy Lilian, Pompon, suffused pearly rose, exquisite flower, from Messrs. Keynes Williams & Co.; Rayon d'Or, small quilled Decorative variety, white, edged brownish yellow; Mars, Pompon, brilliant orange scarlet; and Lorna Doone, Pompon, from Mr. C. Turner; Beauty of Arundel, Cactus, fine bright purple crimson sport from Juarez, from Messrs. Cheal & Sons; Harlequin, Decorative, bright "Fancy" flower, yellow, flaked crimson, from Messrs. Paul & Son, Cheshunt; \*John Rawlings, Show, pale mauve, from Mr. A. Rawlings; \*John Walker, Show, white, faintly suffused lemon, from Mr. J. Walker; Ernest Cannell, orange Cactus, and \*Robert Cannell, rosy carmine Cactus, from Messrs. H. Cannell and Sons; Mrs. Keith, Decorative, distinct yellowish rose; William Powell, Show, yellow, and Arthur Rawlings, Show, crimson, from Mr. J. T. West; Evelyn, single, smooth, silky flower, tender blush, and Annie Hughes, single, very smooth circular flower, lemon centre, margined peach, from T. W. Girdlestone, Esq. Those marked with an asterisk were described somewhat more fully in our issue of August 27th.

#### CRYSTAL PALACE FRUIT SHOW.

SEPT. 4TH AND 5TH.

COMPETITION was not very keen in the majority of the classes at the Sydenham Fruit Show on Friday and Saturday last, and the quality in many cases was not equal to the customary standard. Probably the season was partly the cause of this falling off, and it is possible also that the near approach of the Edinburgh Show deterred some who intend competing in the north from risking their exhibits at the Crystal Palace. About fourteen prizes, however, were not awarded, and these, too, were of fairly good amounts.

Still, with so many classes an extensive display was provided, and considerable table space was required. Besides the fruits cut flowers and vegetables were well represented, and the National Dahlia Society's Show at the opposite end of the building constituted another attraction of much interest.

*Collections.*—The leading class was that for a collection of fruit, not less than twenty dishes; but though the prizes were £12, £8, £4, and £2, only two competitors appeared—namely, Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, and Mr. H. W. Ward, Longford Castle Gardens, Salisbury, who were placed first and second respectively in the order named. Mr. Goodacre's collection comprised the following:—Grapes: Gros Guillaume, large bunches of fair colour; White Tokay, also large and of good colour; Black Hamburgh, of medium size, solid, and well coloured; and Muscat of Alexandria, rather small in the bunch, but fine, clean, well coloured berries. A handsome Smooth Cayenne Pine was notable, also a neat even Queen Pine. The other dishes were Williams' Bon Chrétien Pears, Bellegarde Peaches of high colour, Moor Park Apricots, Violette Hâtive Nectarines, Morello Cherries (excellent), Conqueror of Europe and Victory of Bath Melons (both capital fruits), Noblesse Peaches (admirable in size and colour), Kirke's Plum, Rivers' Orange Nectarine, Brown Turkey Figs, Coe's Golden Drop Plums, Worcester Pearmain Apples, Warrington Gooseberries, White Dutch Currants, and Filberts. The fruit throughout this collection was in good clean condition, suitable for table, and the position accorded was well deserved. Mr. Ward was only a few points behind his rival, and staged praiseworthy examples of the following:—Foster's Seedling and Alicante Grapes, Smooth Cayenne Pines, Amberwood Beauty and Hero of Loeking Melon, Sea Eagle and Prince of Wales Peaches, Elruge and Pineapple Nectarines, Kirke's and Washington Plums, Moor Park Apricots, Brunswick Figs, and Morello Cherries.

The next class was for twelve dishes of fruit, and there again only two collections were staged. Mr. T. Coomber, gardener to J. A. Rolls, Esq., The Hendre, Monmouth, was first with excellent samples of the following fruits:—Gros Maroc and Muscat of Alexandria Grapes were fine alike in bunches, berries, and colour; Bellegarde Peaches were notable for their high colour; a Smooth Cayenne Pine was well developed and ripe; Morello Cherries, Brown Turkey Figs, Blenheim Orange Melon, beautifully netted; Pineapple Nectarines, Jargonelle Pears, Countess Melon, and Kirke's Plums and Apricots completed the collection. Mr. Ward was again second, showing Morello Cherries, Sea Eagle Peaches, Washington Plums, Moor Park Apricots, and Brown Turkey Figs in admirable condition.

Still another class was devoted to collections of fruits, this time for



eight dishes, and here the competition was better, as the whole of the four prizes were awarded. Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, secured first honours with most creditable fruits, every dish good, and in one or two cases scarcely surpassed in the Show. His Black Hamburg Grapes were of fine colour. The Muscat of Alexandria Grapes were remarkable for their clear bright appearance. Havering Park Melon was a large oval beautifully netted fruit. Pitmaston Orange Nectarines and Noblesse Peaches were both fine; Astrachan Apples, Brunswick Figs, and Williams' Bon Chrétien Pears were also shown in good condition. Mr. W. Nash, Badminton Gardens, Chippenham, was second, his most noteworthy dishes being Beauty of Bath Apples very brightly coloured, Barrington Peaches large, and Alicante Grapes of excellent colour. Mr. W. Howe, Park Hill Gardens, Streatham, was third, including fine Madresfield Court Grapes; and Mr. C. Warden, gardener to W. D. Watson, Esq., Clarendon Park, Salisbury, was fourth.

**Grapes.**—The chief class for Grapes, that for ten varieties, two bunches of each, was not satisfactory. Only one collection was staged, and this did not include Grapes of very remarkable merit. Mr. C. Warden was adjudged the first prize for the following varieties—Lady Downe's, Black Hamburg, Muscat of Alexandria, Muscat Hamburg, Gros Maroc, Buckland Sweetwater, Alicante (this and the two preceding varieties were represented by fine bunches), Gros Colman, Foster's Seedling, and Madresfield Court.

With a collection of five varieties Mr. G. Reynolds, gardener to the Messrs. Rothschild, Gunnersbury Park, Acton, took the lead, staging Black Hamburg, medium sized bunches; Chasselas Napoleon, clear even bunches and berries; Alicante, small berries, solid bunches; Muscat of Alexandria, excellent colour; and Gros Maroc, large berries and solid bunches. Mr. T. Osman, The Gardens, Ottershaw Park, Chertsey, was the only other exhibitor, and secured the second prize with Alicante, Muscat of Alexandria, Black Hamburg, Mrs. Pearson, and Lady Downe's.

In the classes restricted to certain varieties of Grapes, the competition was much keener, and some excellent samples were shown. For instance, there were ten entries with three bunches of Black Hamburg, and Mr. J. Gibson, Draycot Gardens, Chippenham, won first honours with even solid bunches well ripened and of capital colour. Mr. G. Reynolds was second with compact bunches of good colour; Mr. W. Nash being third.

Six competitors exhibited Muscat of Alexandria, and Mr. J. Dumble, gardener to Sir C. Phillips, Bart., Picton Castle, Haverfordwest, won first for ripe well-coloured samples, but rather disfigured by spots on some of the berries; Mr. Reynolds won second with large bunches slightly wanting in colour; and Mr. G. Winter, gardener to W. Man, Esq., Barrow-on-Humber was third, large clean bunches of good colour.

Gros Maroc Grapes were shown by five exhibitors, Mr. Reynolds leading with large bunches of excellent colour; Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, Glenhurst Gardens, Esher, was second with good bunches, but the berries somewhat rubbed; Mr. T. Robinson, gardener to W. Lawrence, Esq., Elsfeld House, Hollingbourne, Kent, was third, his bunches being of good size but deficient in colour.

Of Madresfield Court seven exhibits were staged, Mr. J. Gibson winning first honours for much the best examples, the bunches very even, the colour and bloom good. Mr. Griffin, gardener to the Misses Christy, Coombe Park, Kingston, was second, the berries being very large, but the colour not first rate; and Mr. Ward was third for medium specimens.

Seven also entered with Alicante. Mr. W. Marsh, 9, Henrietta Villas, Bath, secured the premier award with even bunches of excellent colour. Mr. Howe followed with large bunches bearing dense bloom, but they appeared to have suffered a little in transit to the Show. Mr. Griffin was third with even bunches, the colour capital. For any other white variety Mr. Warden took the lead amongst half a dozen competitors with Buckland Sweetwater, well proportioned clean ripe bunches. Mr. Bury, The Gardens, Tewkesbury Lodge, Forest Hill, followed with Foster's Seedling, large bunches; and Mr. Reynolds was third for the same variety, both these being somewhat green. In the any other black Grape class Mr. Ward was placed first with three good bunches of Mrs. Pince, but much deficient in colour. Mr. Reynolds was second, showing Alnwick Seedling in excellent condition; and Mr. Bury was third.

Two classes were provided for baskets of Grapes, and some excellent examples were staged, especially in that for a basket of black Grapes. In this Mr. D. McIntosh, gardener to J. Parrott, Esq., East Barnet, was first with Gros Maroc, beautifully coloured and weighing 12½ lbs. Mr. E. Langley, gardener to T. Twigg, Esq., Croxted House, West Dulwich, was second with the same variety, weighing 12 lbs.; and Mr. Iggulden was third, also with Gros Maroc. There were six other unsuccessful exhibitors. In the white Grape class Mr. W. Lane, King's Road, Ascot, was first, showing Muscat of Alexandria, fine in bunch, berry, and colour. Mr. Winter followed with the same variety of a very deep colour; and Mr. Bury was third for Duke of Buccleuch, excellent in bunch and berry.

**Peaches.**—These were fairly represented in numbers, and the majority of the fruits were good in size, colour, and ripeness. Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome, won the leading prize with four dishes of Peaches, good sized fruits of Sea Eagle, Barrington, Walburton Admirable, and Crimson Galande. Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton House, Stamford,

followed closely, all his fruits being of excellent colour. The varieties were Crawford's Early, Bellegarde, Prince of Wales, and Grosse Mignonne. Mr. J. McIndoe, Hutton Hall Gardens, Guisborough, took the third place, showing Golden Eagle, Princess of Wales, Exquisite, and Sea Eagle.

There were twelve entries in the class for a single dish of Peaches, and the first prize was won by Mr. W. Lawson, The Gardens, Lovell House, Crawley, who had fine fruits of Grosse Mignonne; Mr. Ward followed with Sea Eagle, and Mr. A. Gibson, gardener to T. F. B. Atkins, Esq., Halstead Place, Sevenoaks, was third with Barrington.

**Nectarines.**—With four dishes of Nectarines Mr. Divers gained the chief place, exhibiting handsome fruits of Pincapple, Lord Napier, Victoria, and Rivers' Orange. Mr. McIndoe was second for smaller finely coloured fruits of Darwin, Pincapple, Humboldt, and Spenser. Mr. R. Potter, Kemsay, was third. In the single dish class Mr. Divers was first for excellent specimens of Lord Napier; Mr. Bury followed with the same variety, and Mr. Potter was third with Humboldt.

A class was devoted to a collection of Peaches and Nectarines, six dishes of each, and in this Mr. Divers continued his success, taking premier honours with admirable fruits of the following varieties:—Peaches, Crawford's Early, Grosse Mignonne, Dymond, Violette Hative, Prince of Wales, and Bellegarde. The Nectarines were Lord Napier, Victoria, Violette Hative, Pineapple, and Dryden. Mr. Potter was a good second, some of his best dishes being Exquisite and Mr. Gladstone Peaches, with Rivers' Orange and Goldoni Nectarines.

**Melons.**—To these fruits two classes were devoted, and in each the competition was exceedingly keen, much larger than that in any other class of the whole Show. For one green-flesh Melon there were twenty-three entries, Mr. A. Gibson leading with Halstead Favourite, beautifully netted, the flesh deep, of good flavour; Messrs. Goodacre and W. Palmer following with good fruits but unnamed. In the scarlet flesh variety class the exhibitors were only one less in number. Mr. Palmer was first for a handsome fruit of Sutton's Triumph; Mr. J. Matthews, gardener to W. Stride, Esq., Coulsdon Grange, Caterham, was second with Blenheim Orange, and Mr. Coomber was third with the same variety.

**Plums.**—Of the eleven entries with four dishes of red Plums Mr. H. Markham, gardener to Viscountess Falmouth, Mercworth Castle, Maidstone, won the first place, showing Victoria, Goliath, Sultan, and Prince of Wales, large, and finely ripened. Mr. Iggulden took the second place with Victoria, Pond's Seedling, Angelina Burdett, and Prince of Wales; Mr. J. Neighbour, Bickley, being third for Pond's Seedling, La Delicieuse, Victoria, and Cox's Emperor. The entries in the next class for yellow and green Plums were also eleven, and there Mr. Iggulden was first for good examples of Transparent Gag, Golden Emperor, Jefferson, and Oulins Golden. Mr. Neighbour followed, his best fruits being Pershore Yellow, and Magnum Bonum; while Mr. Ward was third, his collection including a fine dish of Washington. Ten lots of purple Plums, four dishes each, were contributed, and Mr. A. Bolton, gardener to Earl Ashurst, Montreal, Sevenoaks, was accorded the first place with Prince of Wales, Diamond, Prince Englebert, and Kirke's. Mr. Ward was a close second, having Mitchelson's, Belgian Purple, Diamond, and Kirke's; and Mr. Neighbour was third, a good dish of Diamond being conspicuous in his collection. Only one exhibit of three dishes of Figs was shown, for which Mr. J. Wallis, gardener to R. Sneyd, Esq., Keele Hall, Newcastle, Staffs, was awarded the first prize. The varieties were Brown Turkey, Negro Largo, and Brunswick.

**Apples and Pears.**—These were not largely represented, but the collections staged were of excellent quality. For twelve varieties of Apples (orchard house), Messrs. Bunyard & Co., Maidstone, the only exhibitors, were deservedly first, and it would have been difficult to surpass their specimens. The varieties shown were Stone's, Alexander, The Queen, Mother Apple, Lady Sudeley, Red Bietigheimer, Warner's King, Washington, Peasgood's Nonesuch, Bismarck, Ribston Pippin, and Melon Apple.

Mr. McIndoe was first for ten varieties of Pears (orchard house), good samples of Beurré d'Amanlis, Van Mons Leon Leclerc, Brockworth, Pitmaston Duchess, Doyenné du Comice, Souvenir du Congrès, General Todleben, Clapp's Favourite, Beurré Clairgcau, and Louise Bonne of Jersey. Messrs. Potter and Bunyard followed closely. For outdoor Apples and Pears, Messrs. Bunyard, Waterman, and Paul and Son, Cheshunt, were the successful exhibitors. With collection of six varieties of Tomatoes, Messrs. R. Spinks, A. Rawlings, and T. Roberts secured the prizes in the order named.

#### CUT FLOWERS AND PLANTS.

We cannot refer in detail to the exhibits under these heads, but the following were the prizetakers in the principal classes:—

**Open Classes.**—Collection of Gladioli spikes, not less than thirty-six varieties or over 100 spikes.—First, Messrs. J. Burrell & Co., How House Nurseries, Cambridge; second, Mr. W. H. Fowler, Claremont, Taunton. Twenty-four Quilled Asters.—First, Mr. J. Walker, Thame, Oxon; second, Messrs. Saltmarsh & Son, Chelmsford; third, Messrs. Webb and Brand, Saffron Walden. Twenty-four French Asters.—First, Messrs. Saltmarsh & Son; second, Mr. W. F. Catlin, 9, Midsummer Buildings, Bath; third, Messrs. Webb and Brand. Twenty-four Hollyhock blooms, distinct.—First, Messrs. Webb & Brand; second, Mr. Thos. Hobbs, Easton, Bristol; third, Mr. W. Smith, Kingswood, Bristol. Collection of cut stove and greenhouse flowers.—First, Mr. A. Gibson, Sevenoaks; third, Mr. W. Slogrove, Gatton, Reigate. Six Cockscombs, grown in pots not exceeding 8 inches.—First, Mr. T. Crosswell, Eden Park Gardens,



Beckenham; second, Mr. T. Slater, York House, Lower Sydenham. Collection of early flowering Chrysanthemum indicum, grown in pots not exceeding 8 inches.—First, Messrs. Reid & Bornemann, Sydenham; second, Mr. H. J. Jones, Ryecroft Nursery, Lewisham; third, Mr. W. Piercy, 89, Beadwell Road, Forest Hill.

*Amateurs.*—Eighteen Gladioli spikes, distinct.—First, Mr. W. H. Fowler, Claremont, Taunton; second, Mr. E. B. Lindsell, Bearton, Hitchin; third, Mr. A. G. Brown, Wethurn, Sunderland. Twelve Hollyhock flowers, distinct.—Second, Mr. Thomas Hobbs; third, Mr. J. Newman.

#### SPECIAL PRIZES.

The exhibits in competition for the numerous prizes offered was good, and they occupied considerable space. The awards were as follows:—

comprising many of the useful novelties which have originated at Sawbridgeworth. Mr. W. Taylor, Uxbridge, had a collection of Apples; and Messrs. William Paul & Son, Waltham Cross, had with their beautiful group of Roses a collection of 150 dishes of Apples and Pears.

#### THE FINEST VINE IN BRITAIN.

IN our issue of the 6th ult. a note appeared under the above heading briefly describing a wonderful Vine at Roehampton. Its seven rods, straight as lines, extend along a roof 224 feet, the aggregate length of the rods thus exceeding a quarter of a mile, the weight of crop exceeding

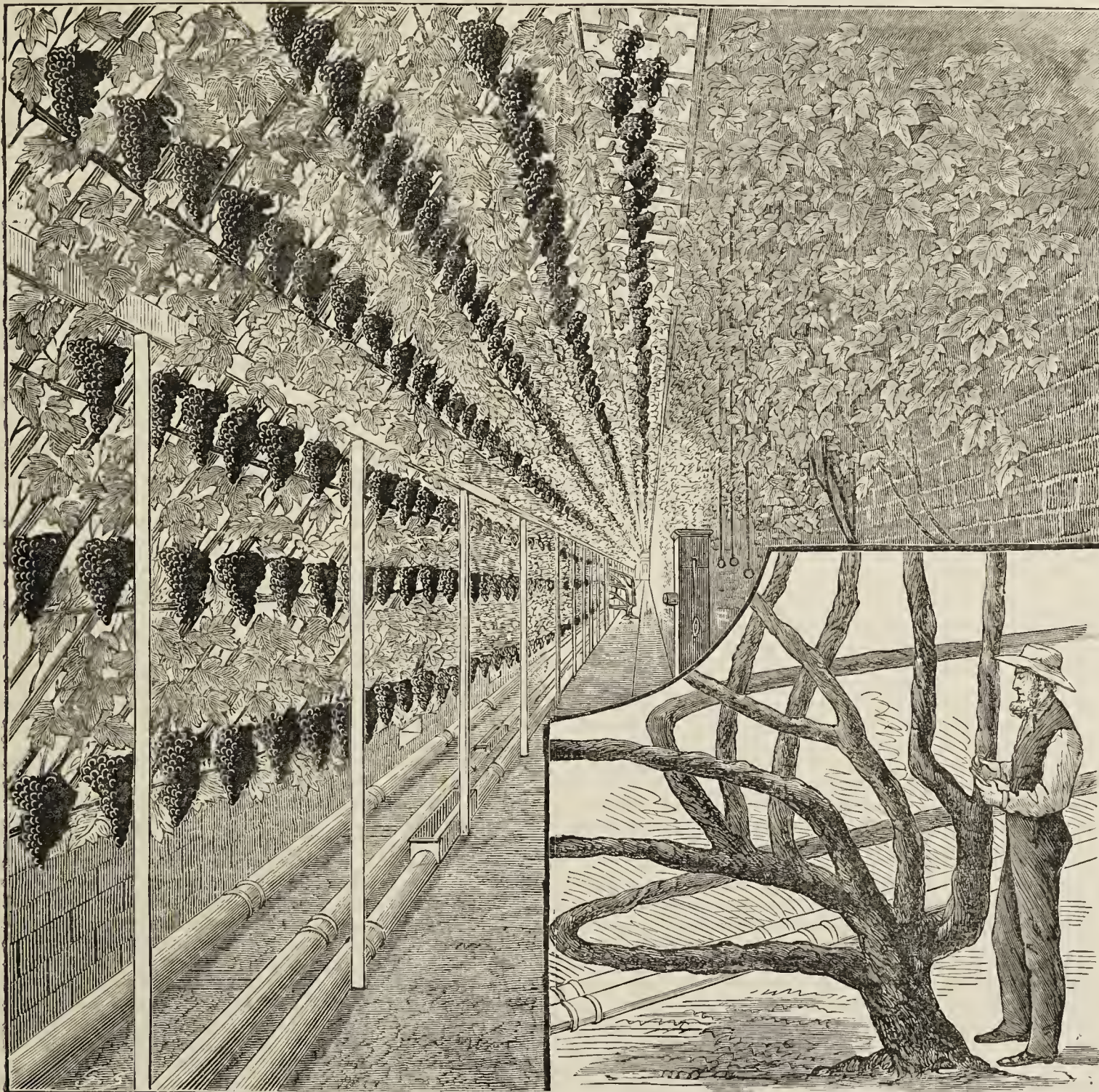


FIG. 42.—THE MANRESA VINE.

The prizes offered by Messrs. James Carter & Co. for the best six fruits of Carter's Blenheim Orange Tomato were won by Mr. J. Slater, Lower Sydenham; Mr. Joseph Slater, Shepley House, Carshalton; and Mr. W. Palmer in the order named. Messrs. Sutton & Sons' prizes for the best collection of vegetables, nine sorts, were secured by Mr. C. J. Waite, Mr. W. Palmer, Mr. J. T. Barney, Boxley Road, Maidstone; and Mr. E. Chadwick, Hanger Hill House, Ealing; the same firm's prizes for Perfection Tomatoes, nine specimens, going to Mr. C. J. Waite, Mr. J. Gibson, Mr. Thos. Crosswell, and Mr. J. T. Barney. Messrs. Daniels Bros. offered a prize for the best fruit of Daniels' Westley Hall Melon, which was won by Mr. W. Chessleburgh, Worsted House, Norwich.

The non-competing fruit exhibits were not very numerous, but Messrs. T. F. Rivers & Son, Sawbridgeworth, had a magnificent collection of fine fruits—Plums, Peaches, Nectarines, Grapes, and Pears,

1000 lbs. In a subsequent issue (the 27th ult.) a correspondent said the Speddoek Vine must be finer because it produces an equal weight of fruit in a house only half the size. Another "Seot" now writes, and says if the greatest weight in the least space is to be the test for the "finest Vine" he shall put in a claim for a single rod bearing a prodigious crop. He thinks a fine Vine and fine crop somewhat different, and claims for the Kinnell Vine the honour of being "the finest in Britain." He concludes by asking "for a photograph of the Manresa Vine to appear in the Journal so that we can judge for ourselves." A view of a portion of the Vine has appeared. The whole could not be shown, and appears again for examination by new readers. Will our friend now return the compliment and send a photograph of what he



considers the "finest Vine in Britain?" It would perhaps not be without interest to have the weights of heavy crops of Grapes grown on a single rod, stating the extent of roof space thus occupied.

## HORTICULTURAL SHOWS.

READING.—SEPTEMBER 2ND.

A DISHEARTENING disaster, similar to that which rendered the great Exhibition at Newcastle abortive in the previous week, attended the preparations for the Show of the Reading Horticultural Society on the above date. In the Forbury Gardens, a public pleasure ground in the town of seeds and biscuits, stand the ruins of Reading Abbey, and within the walls, still erect and strong, notwithstanding that they are dark with age, it has been the custom to fix a huge tent covering the whole space, the plants being arranged on grassy mounds at the ends, sides, and in the centre. As may be imagined, a picturesque and beautiful effect was produced, rendering the Show of exceptional interest. This year the canvas erection was fixed as usual, but in the heavy gale that prevailed on the day previous to the Exhibition the wind found its way beneath the tent and tore it to pieces. Fortunately no exhibits were staged, but the Committee found themselves in a very embarrassing position. To erect fresh tents would mean a heavy additional drain upon an exchequer already seriously depleted by weather vagaries at other shows, with the contingency of their being also dashed to pieces. However, the gale abated on the evening of the 1st, and with an energy and courage deserving the highest praise the officials set to work early on Wednesday morning and made a determined effort to retrieve the initial misfortune and keep faith with the public by holding the Show. Fresh tents were procured and erected as rapidly as possible, a new plan of arrangement was quickly sketched out, and the exhibits taken in hand and promptly "located." The result was that when our representative reached the ground soon after 11 A.M. nearly everything was in place, and at 2 P.M. the judging was completed, and everything in readiness for the admission of the public as usual. The utmost credit attaches to everyone connected with the undertaking. The task was an uphill one, but it was successful, and Mr. William Smith, the Secretary, together with every other official who assisted, merits warm commendation. The Society must inevitably suffer severely by the *contretemps*, as it was stated that the large tent was their own property, and to replace it would cost a very large sum; however, it is to be hoped that it will be found to admit of repair, and that they will safely weather the storm, and continue their good work as of old. Let friends rally round as well as the officials did their duty, and the efforts of the latter will not be in vain.

The Show, as usual, was a good and interesting one. Plants and vegetables were splendidly shown, and fruit moderately well. The principal awards are referred to in the following notes.

The best group of plants, covering a space of 12 by 10 feet, was staged by Mr. Aitken, gardener to C. Meeking, Esq., Ritchings Park. White, supplied by Lilliums, *Pancratiums*, *Tuberoses*, and *Campanula pyramidalis alba*, largely predominated. The latter showed up splendidly towards the back, and should be frequently used in such arrangements. *Gloxinias*, small *Crotons*, *Francoa ramosa*, *Vallota purpurea*, and one or two *Begonias* were tastefully interspersed. Mr. Bright, gardener to R. Karslake, Esq., Whiteknights Park, was second with a handsome but less graceful display. Mr. Butcher, gardener to G. Palmer, Esq., Reading won in the smaller group class, Mr. Sumner, gardener to G. Philbrick, Esq., Reading; and Mr. Balchin, gardener to B. Simonds, Esq., Reading, following.

Variegated and handsome foliage plants were well shown by Mr. Aitken, his *Crotons* being very clean and healthy. Mr. Mould, Pewsey, was second. Mr. Aitken also had the best six stove and greenhouse plants, *Bougainvillea glabra*, *Eucharis grandiflora*, *Ixora Williamsi*, and a *Clerodendron* being very finely flowered plants in the best condition, doing him great credit. Mr. Mould, who was second, had a grand *Erica Eweriana superba*, a fine *Lapageria alba*, but not yet in full bloom, and handsome specimens of *Erica McNabiana rosea* and *Phenocoma prolifera Barnesi*. Mr. Aitken had an excellent exhibit in the class for stove and greenhouse Ferns, the plants being large and in perfect health; *Microlepia hirta cristata*, *Gymnogramma peruviana argyrophylla*, *G. Alstoni*, *Davallia fijiensis plumosa*, and *Davallia Mooreana* were all good, the latter superb. Mr. Willis, gardener to H. J. Simonds, Esq., also had a grand plant of the latter in his second prize lot, together with several other good plants. Mr. Dockerill was third. Mr. Mould won with three Palms, Mr. Turton second; and Mr. Dockerill was successful with *Selaginellas*; Mr. Mayne, gardener to Lord Saye and Sele, Reading, following.

The greenhouse and conservatory flowering plants were a very bright feature. Mr. Lockie's *Begonias* were very good, and were placed first; but Mr. Dockerill, gardener to G. W. Palmer, Esq., Reading, was not far behind. His plants were smaller, but they were dwarf and the flowers fine. Mr. Booker, gardener to C. Littledale, Esq., Twyford, had some excellent Lilliums, dwarf and full of bloom, the lancifoliums being particularly good. Mr. Dockerill was third, but his plants were inferior both in diversity and quality. Mr. Lockie had some capital *Cockscombs*. He grows these plants admirably, and beat Mr. Booker very decisively. The latter won with Balsams. Bedding *Pelargoniums* were in excellent condition, Mr. Bright having a splendid half-dozen, large, well clothed, and full of bloom. Mr. Castle, gardener to Mrs. Malet, Twyford, had some very richly coloured *Coleuses*, and won easily from Mr. Turton, gardener

to J. Hargreaves, Esq., Maiden Erleigh. *Fuchsias* from Mr. Bright were splendid examples of culture, being pyramids 7 to 10 feet high, healthy, and full of bloom. These had been grown from cuttings inserted in February, 1890, and richly merited the premier award. *Achimenes* were not of a very high order.

Cut flowers were abundant. Mr. Such, Maidenhead, had some fine clusters of herbaceous *Phloxes*, and was placed first. Mr. Booker won with eighteen bunches of cut flowers, these being cut from stove and greenhouse plants, and Mr. Castle followed. With twelve, Mr. Howard, gardener to Mrs. Myers, Benham Park, was first, and Mr. Bright second. Messrs. Cheal & Sons, Crawley, had one of their well-known delightful displays of single *Dahlias*, beautifully set up, and they won easily, Mr. Such being a good second with flowers more loosely arranged. The latter had a fine white named *Maud Such*, and the new varieties *Gulielma* and *Miss Glasscock* were noticeable in the first prize box. Messrs. Perkins & Sons won with *Roses*, the flowers being surprisingly fresh and good, Mr. Such was second. Mr. Thorne, gardener to Major Joicey, Sunningdale Park, third, and Mr. Turton fourth. The quilled *Asters* from Mr. Walker of Thame formed a charming stand, and his French varieties were little less attractive. He was placed first for each. Mr. Mould had some capital *Gladioli*, and won very easily; while Mr. Walker was victorious with *Zinnias*. *Hollyhocks* were not a success, but double *Dahlias* were very good. Messrs. Mortimer and Walker were first and second with eighteen, but although the former won in this class their positions were reversed in that for twelve. Each box contained excellent blooms.

Fruit was fairly good taking it altogether and considering the season. Mr. Aitken won with eight dishes, his *Black Grapes* (*Alicante*) being good, but the *Museats* not well coloured. *Sea Eagle Peaches* were excellent. Mr. Goodman, gardener to Miss Hammersley, Bourne End, was not far behind; his *Grapes* were somewhat weak, but his *Peaches* (*Bellegarde*) and *Melon* (*La Favourite*) were good. Mr. Perkins, gardener to the Right Hon. W. H. Smith, Henley, was third. Mr. Johnson, gardener to A. Gilliatt, Esq., won with six dishes, a capital collection of fruit. Mr. Paxton, gardener to the Hon. C. S. Irby, Taplow, being second, and Mr. Smith, gardener to R. Ovey, Esq., third. Mr. Turton was first with *Black Hamburg Grapes*, the bunches good but not perfectly coloured; Mr. Ashby, gardener to J. R. King, Esq., Whitechurch, being second, and Mr. Osman, gardener to L. Baker, Esq., Ottershaw Park, third. For any other black the latter won with *Alicante* in admirable condition; Mr. Pound, gardener to A. Sutton, Esq., Reading, being second, and Mr. Waite, gardener to Colonel the Hon. W. P. Talbot, Esher, third; extra prizes going to Mr. Willis and Mr. Turton. Mr. Johnson had some splendid *Museats* and won easily, Mr. Lane, gardener to Miss Dunning Smith, Ascot, being second and Mr. Pound third; extra prizes going to Mr. Pound, gardener to G. May, Esq., and Mr. Osman. These formed a very strong class. Mr. Ashman, gardener to C. Crews, Esq., Billingbear, won with any other white, showing *Buckland Sweetwater*, Mr. Smith second with *Golden Queen*. *Peaches*, *Nectarines*, *Apricots* and *Figs* were all good, the principal winners being Messrs. Pound, gardener to G. May, Esq., with a splendid dish of *Bellegarde Peaches*; Smith, Paxton, Howard, Ashman, Bright, Ashby and Dockerill. *Plums* were abundant and fairly good, Mr. Goodman having the best dishes. The winner's card for eating Apples was lost, but Mr. Webb, Benham, was second and Mr. Dockerill third. The latter had some fine dishes of culinary varieties, which were also admirably staged by Messrs. Turton, Aitken, Goodman and Webb. Messrs. Cheal & Son had an excellent display not for competition. Mr. Goodman won with a basket of miscellaneous fruits; and prizewinners in other classes were Messrs. Read, Allum, Goodman, Paxton, Howard, Turton, Kneller, Lees, and Booker. Messrs. Sutton's prizes for *Melons* were won by Messrs. Goodman, Haslam, Dockerill and House. *Hero of Lockinge* and *Sutton's Triumph* were good, and a green flesh variety without a label, probably *La Favourite*, was splendid.

The vegetables, principally in competition for special prizes, covered tabling 120 yards long in the open air, and were a magnificent display. Messrs. Sutton & Sons offered over fifty prizes, and these brought some good produce. Turnips were excellent, as also were Lettuces, Runner Beans (*Sutton's A1*), and Peas (*Duke of Albany* and *Royal Jubilee*). Tomatoes, too, were very good, especially *Perfection* and *Golden Queen*. Parsnips (*Student*) were well up to the average. Onions were fair, and Leeks moderate, with the exception of Mr. Lye's samples of *Prizetaker*, which were very fine. Of Sutton's *Sulham Prize Celery* there were some splendid sticks. Sutton's *Autumn Mammoth Cauliflower* was good, and their new *Intermediate Carrot* very fine. Messrs. Lye, gardener to W. K. Kingsmill, Esq., Sydmonton; Waite; Pope, gardener to the Earl of Carnarvon, Highclere; Durman, gardener to J. W. Workman, Esq., Reading; Lockie, Palmer, Kneller, Balchin, Scammell, gardener to the Rev. St. John Thackeray; Booker, Knight, Pound, Haslam, gardener to General Swettenham; Ashby, Turton, Goodman, Dockerill, and House were the prizewinners in these classes, Messrs. Lye, Lockie, Waite, Pope, and Kneller showing the most prominently. Messrs. Carter & Co., High Holborn, London, offered prizes for the best collections of vegetables, and these also produced some fine produce. The first prize of three guineas was won by Mr. Pope, who had a splendid exhibit. Carter's *King of the Russets Potato*, *Summer Favourite Carrot*, *Jersey Lily Turnip*, *Standard Bearer Celery*, *Perfection Beet*, and *Telegraph Peas* were all admirable examples. Mr. Waite's second prize collection was very little inferior, his *Telegraph Peas*, *Holborn Model Leeks*, *Standard Bearer Celery*, and *Delight Potato* being very fine. Mr. Palmer, gardener to the Hon. Hume Dick, Thames Ditton, was a highly



creditable third, having good examples of Holborn Masterpiece Runner Bean, and Abundance Potato amongst others. Mr. C. Fidler, Reading, also offered prizes for a collection of vegetables. The first was won by Mr. Kneller, who had splendid Perfection Tomatoes, Rousham Park Onion, and Clayworth Park Celery. Mr. Waite was again second, and Mr. Goodman third. Mr. Fidler also offered prizes for his excellent Potatoes. Messrs. Webb & Son, Wordsley, offered special prizes for collections, which brought out some capital produce. The first prize went to Mr. Kneller, who had excellent examples, Rousham Park Onion, New Intermediate Carrot, Satisfaction Potato, Webb's Prize Pink Celery, and Webb's Perfection Tomato were all excellent. Mr. Lye was placed second, his Satisfaction Potatoes being very fine. Mr. Pope was third, and Mr. Lockie fourth.

There were many excellent exhibits in the amateurs' and cottagers' classes, but want of space forbids their being particularised. Mr. Phippen of Reading had a small tent to himself, in which he had a large bank of plants and flowers very effectively arranged. Mr. Such had several stands not for competition.

#### [BATH AUTUMN SHOW.—SEPTEMBER 2ND AND 3RD.]

OF the five shows annually held at Bath the fourth or "Autumn Floral Fête" is always the most popular, nothing but fine weather being wanted to make it a complete success. On the whole the Committee may be said to have been fortunate in their choice of dates, only a few heavy showers falling on the first or opening day. In some respects the display generally was scarcely equal to what has been seen in former years, the falling off being most perceptible in the Fuchsia classes, and this can easily be accounted for, some specimens having been lost during the last winter and many badly damaged by stormy weather. The best nine specimens were shown by that veteran raiser and grower, Mr. J. Lye, gardener to the Hon. Mrs. Hay, Market Lavington. These were all about 10 feet high, somewhat closely tied in and beautifully flowered, the varieties being Bountiful, Duchess of Fife, Lye's Favourite, Lye's Rival, Abundance, Novelty, Mrs. Bright, Final, and Charming. The second prize went to Mr. G. Snell, gardener to Mrs. Counsell, Bath, who had much larger specimens; but in a very backward state as regards flowering. For six specimen Fuchsias Mr. W. Marehant, gardener to Mrs. Jolly, Bath, was well first, having perfect pyramids of Arabella, Bountiful, Charming, Doel's Favourite, Lye's Favourite, and Elegance. With four varieties Mr. W. Marsh was first, and Mr. J. H. Wilcox, second; while the prizes for single specimens of different colours were principally taken by Messrs. Lye, Snell, and Wilcox.

Stove and greenhouse plants in and out of flower made a good display, most of the classes being well filled. With eighteen specimens Mr. J. Cypher, Cheltenham, was easily first, having *Kentia Canterburyana*, *Caryota sobolifera*, *Crotons mutabilis*, *Newmanni*, and *angustifolius*, *Allamanda nobilis*, and other specimen plants in perfect condition. Mr. J. Currey, gardener to Colonel Pepper, Salisbury, was a creditable second, and was also well first for eight ornamental foliaged plants, Mr. G. Dagger, gardener to Mrs. Simms, being second. The best six flowering plants were shown by Mr. W. McD. Bennett, gardener to C. W. Mackillop, Esq., Bath, who had good specimens of *Stephanotis floribunda*, *Bougainvillea glabra*, *Allamanda Hendersoni*, *Clerodendron Balfourianum*, *Erica Eweriana*, and a *Dipladenia*. Mr. G. Tucker, gardener to Major W. P. Clarke, Trowbridge, was a very close second, his specimens, though smaller, being better flowered than Mr. Bennett's. With single specimens Messrs. Tucker and Cypher were the most successful. Mr. Cypher had a first for six varieties of Heaths, and was also well first for six Orchids, the latter consisting of *Odontoglossum grande*, *Cattleya Gaskelliana*, *Odontoglossum Harryanum*, *Oncidium ineurum*, *Vanda cœrulea*, and *Epidendrum prismatocarpum*. Exotic Ferns were not so numerous as usual. Mr. G. Tucker was first for twelve, showing fine specimens. Messrs. Cole & Son, Bath, were second. For six varieties Mr. T. Truckle, gardener to T. Carr, Esq., was first, and Mr. Currey second.

The best Zonal Pelargoniums were shown by Mr. Tucker; Messrs. Marchant, Oakhill, W. J. Stokes, S. Tottle, Cole & Son, and G. L. Palmer also being successful in different Pelargonium classes. Messrs. Cooling and Sons were most successful with Lilioms, showing these in beautiful condition in two classes, Mr. Truckle also being successful. Coekscombs were good, Messrs. Cooling & Son having the best. Mr. G. L. Palmer was the most successful exhibitor of Tuberous Begonias, Messrs. Blackmore and Clarke also showing well in both classes. Coleus were wretchedly bad, while the British Ferns were both badly grown and wrongly named. The collection of the latter, however, as shown not for competition by Mr. Harris, Clifton Zoological Gardens, formed an admirable group, not often seen. There were only three competitors in the class for a group of miscellaneous plants arranged for effect on a space not less than 100 square feet, but all made highly creditable displays. Mr. J. Cypher was first, his exhibit comprising valuable Orchids, Palms, Crotons, Lilioms, Ferns, and Grasses arranged in a light and artistic manner. Mr. J. Currey was second for a very tastefully arranged group a little weak in the front, while the third prize went to Mr. Bennett.

Cut flowers are always a great feature at these autumn shows, and on this occasion appeared to be more numerous and better than ever. Roses were surprisingly good. With twenty-four varieties Dr. S. P. Budd, Bath, was well first; Messrs. Perkins & Sons, Coventry, were second. Very good also were the first prize twelve varieties shown by Dr. Budd. Messrs. Perkins & Sons were again second. For twelve Teas equal firsts were awarded to A. Hill Gray, Esq., Bath, and Dr. Budd, each having

several excellent blooms. A fine display was made by W. H. Fowler, Esq., Taunton, in the class for thirty-six spikes of Gladioli, this comparatively new exhibitor easily winning first honours; Mr. Vincent Slade being second, and Mr. R. H. Poynter, Taunton, third. With twelve varieties of Gladioli Mr. A. A. Walters, Bath, was first, and Mr. S. Tottle, Taunton, second. Dahlias were not particularly numerous, but the prizewinning stands were all good. Messrs. Heath & Sons, Cheltenham, were placed first for twenty-four varieties, Mr. Humphries, Chippenham, being a very close second, and Mr. J. Nation third. In the class for twelve varieties Mr. T. Hobbs, Bristol, took the lead, Mr. J. Newman being second, and Mr. W. Smith third. For twelve Fancy Dahlias Mr. G. Humphries was first, Mr. J. Nation second, and Messrs. Heath & Sons third. Single Dahlias were beautifully shown by Messrs. T. Truckle, who was first, and A. A. Walters, second. The best collection of bunches of stove and greenhouse flowers was shown by Messrs. Cole & Son, the second prize going to Mr. H. Pocock; Mr. G. Pymm, gardener to Mrs. Gouldsmith, Trowbridge, being third. A grand display was made in the class for herbaceous flowers, no limit being placed on the number of varieties shown. With these Messrs. Cooling and Sons were first, Mr. A. A. Walters second, and Mr. Marchant third. Annuals again were beautifully shown in unlimited collections, one unfortunate exhibitor being disqualified for having a bunch of *Salvia eocinea*. Mr. Marchant was first, Mr. C. Baker second, and Mr. J. Stuckey third. Classes were also provided for Zonal Pelargoniums, Verbenas, and Hollyhocks, Mr. W. Smith, a noted grower, being easily first for the latter. Asters, both French and German, were extensively shown, and fine blooms were to be seen. Messrs. Jones, Budd, Lansley, and Catlin were the principal prizewinners with these. A magnificent hand bouquet gained Messrs. Perkins & Sons the first prize, Mr. C. Winstone, Clifton, being a creditable second. The competition with vases or epergnes was very keen. Mr. J. Cypher was first and Mr. C. Winstone second.

One large tent was wholly devoted to fruit, and this did not provide sufficient room. There were four competitors with collections of twelve varieties, but Mr. W. Nash, gardener to the Duke of Beaufort, Badminton, was easily first, having good Alicante and Muscat of Alexandria Grapes, handsome fruit of Golden Gem and Countess Melons, exceptionally fine Barrington and good Bellegarde Peaches, Downton and Pineapple Nectarines, Moorpark Apricots, Jargonelle Pears, Angelina Burdett Plums, and Black Tartarian Cherries, all in excellent condition. Mr. G. Pymm was a creditable second, and Mr. A. Miller, gardener to W. H. Long, Esq., Rood Ashton, a close third. Another class, that for eight bunches of Grapes in four varieties, was fairly filled on this occasion. Mr. W. Taylor, gardener to J. Chaffin, Esq., was easily first, having grand and perfectly coloured bunches of Muscat of Alexandria, Alicante, Gros Maroe, and Alnwick Seedling. Mr. J. Gibson, gardener to Earl Cowley, Draycot, was a creditable second, Madresfield Court and Black Hamburgh being good in this collection. Mr. J. Bury, gardener to C. Bayer, Esq., London, was third. Mr. Taylor was placed first for two very good bunches of Muscat of Alexandria, the second prize going to Mr. J. Marshall, gardener to J. Dole, Esq., Mr. W. K. Waite being third. In the class for any other white Grape Mr. J. Marshall was easily first for two grand bunches of Buckland Sweetwater, probably the best yet seen at Bath, Mr. J. Atwell being second with the same variety in good condition, and Mr. S. Fletcher third.

The best three bunches of Black Hamburgh were shown by Mr. J. Gibson, these being good in every way. Miss Marriott was second, and Mr. W. Nash a close third. In the any other black class Mr. Taylor led with good Madresfield Court, Mr. W. Nash following with Alicante in perfect condition, and with the same variety Miss Marriott was third. Melons were well shown in two classes in addition to those for which Messrs. Sutton & Sons offered special prizes. The principal prizewinners were Messrs. H. Chislett, gardener to E. T. D. Foxcroft, Esq.; T. Wilkins, gardener to Lady Theodore Guest, Blandford; W. Haskell; J. Gibson; C. Adlam, gardener to J. A. Martin, Esq.; and A. Lemsley. Peaches were somewhat poor, and Nectarines not much better. With the former the principal prizewinners were Messrs. W. Fidler, gardener to Baron C. de Tuyl; F. Fletcher, gardener to Capt. J. G. Bayley; A. Holbrook, gardener to A. G. Hayman, Esq., Frome; T. Wilkins; and F. Rice, gardener to Mrs. Home. Mr. J. Bury was well first in the principal Nectarine class, having a grand dish of Victoria; Messrs. F. Fletcher, T. Wilkins, and W. Coombes, gardener to J. W. Langdown, Esq., being the other prizewinners. A capital display of Plums was provided, such serviceable sorts as Kirke's, Jefferson, Green Gage, Washington, Victoria, and Pond's Seedling, being the best represented. Pears, again, were very numerous and good. Mr. Bannister was first for three varieties, having Doyenné Boussoch, Pitmaston Duchess, and Jargonelle in excellent condition. The other prizewinners were Messrs. Fletcher and E. Hall. A pretty lot of dessert Apples were shown, including several very good dishes of Beauty of Bath, for which the introducers, Messrs. Cooling & Sons, offered special prizes. Culinary Apples, again, were most extensively and well shown, the first prize collection of three varieties staged by Mr. A. Millar, and consisting of Ecklinville, Warner's King, and Lord Suffield, being particularly good.

It is doubtful if such fine vegetables have ever previously been seen at the Bath Shows. For twelve varieties Mr. T. Wilkins was first, showing Autumn Giant Cauliflower, Ailsa Craig Onion, Wright's Grove White Celery, Lyon Leek, Intermediate Carrot, Satisfaction Potato, Duke of Albany Pea, Cheltenham Beet, Student Parsnip, Ne Plus Ultra



Runner Bean, Tender and True Cucumber, and Perfection Tomato, all remarkably good. Mr. J. H. Copp, gardener to W. E. E. Erle Drax, Esq., was a close second; and Mr. G. Garraway, Bath, third. In the class for eight varieties, the prizes being offered by Messrs. Sutton and Sons, Mr. Copp succeeded in beating Mr. Wilkins, his collection consisting of Suttons' King of the Cauliflower, Perfection Tomato, Suttons' Seedling Potato, Duke of Albany Pea, and Wright's Grove White Celery, all being very good. Mr. J. Lye was third. For Messrs. Webb & Sons' vegetable prizes Mr. Wilkins was first, staging Webbs' Mammoth Cauliflower, Ailsa Craig Onion, Webbs' Sensation Tomato, Duke of Edinburgh Pea, and Webbs' Defiance Carrots in fine condition. Mr. G. Garraway was a good second, and several other excellent collections were shown in this as well as in the preceding class. The competition for Messrs. Jarman & Co.'s prizes was also keen, Messrs. Wilkins, Copp, and Garraway taking the prizes in the order named. There were also well-filled classes for Potatoes, Peas, Turnips, Onions, Beans, Tomatoes, and other vegetables in season.

#### WALKLEY, SHEFFIELD.

THE annual Show of the Walkley Amateur Floral and Horticultural Society was held on September 2nd at the Church Schools, South Road, and was favoured with beautiful weather; in fact, the day of the Show was exceptional in this respect, the prevailing weather for the previous few weeks having been of a most boisterous and showery character. Even the day before the Show it was so inclement that many members were debarred from preparing exhibits to send to the Exhibition, which had been fixed three weeks later than the usual time owing to the lateness of the season.

The exhibits upon the whole were very creditable to the members. Several groups of plants were arranged very tastefully, Mr. M. Taylor, the Secretary, taking a leading place with a mixed collection of stove and greenhouse plants, which made an effective display of foliage and flowers. The second prize group, belonging to Mr. H. Willford, was of a wholly different character, being composed almost solely of greenhouse plants, Zonal Pelargoniums and Fuchsias largely predominating, the group being edged with blue Lobelia. The third prize fell to Mr. G. Walker, who had a group of choice stove plants, and fell behind the others in nothing but the size of his group. The fourth group was a mixture of flowering and foliage plants and Maidenhair Ferns belonging to Mr. G. Coulson.

The chief prizewinner in the classes for specimen flowering and foliage plants was Mr. G. Walker, who had a superb specimen of *Pteris scaberula*, and a smaller but good specimen of *Davallia bullata*. He also had good Zonal Pelargoniums, stove flowering Begonia, and well-grown seedling Gloxinias. His specimens of *Coleus* were very good indeed. Mr. J. Marson had the best Fuchsias. Mr. R. H. Laughton had a splendid *Yucca aloifolia*, and Mr. Coulson showed a well-grown *Pteris serrulata*, also a large plant of *Begonia Rex*. Mr. Willford exhibited a splendid *Lilium auratum*. The classes for cut blooms were rather weak. Competition was keen with Stocks and Asters, also Pansies. Dahlias were absent except one or two exhibits of Bouquet varieties, and good examples of Show Dahlias exhibited by Mr. Carlton, who also took the leading place with Pansies, Picotees, and Carnations. Few Gladioli were shown, but the specimens were good.

In the fruit and vegetable classes competition was good with Potatoes, Turnips, Tomatoes, Peas, &c. Special mention should be made of Mr. R. H. Laughton's Grapes, which were well finished, and the bunches were large and shapely. In addition to obtaining first honours they were highly commended by the Judges. Several members and friends lent plants and flowers for decoration only. Mr. Wm. Smith had a beautiful collection of British Ferns, including a few exotics. Mr. Wm. Wood sent an epergne of flowers, and a stand of Pansies was also included among these loans. Stands of cut blooms and bouquets were largely represented. Mr. W. S. Singleton was first with a stand of *Lilium auratum*, and Mr. Willford took the lead with bouquets.

Not the least interesting feature of the Show were the neatly printed cards hung about the room, announcing the prizewinners in the best kept garden and greenhouse competition. These are inspected, and the awards made a few days before the annual Show. The successful competitors in the best kept greenhouse competition were Messrs. Walker, Taylor, Willford, Laughton, Marson, Wilson, and Cuckson. In the best kept garden competition the following:—Messrs. Laughton, Marson, Turner, and Taylor. The Judges in the garden and greenhouse competition were Messrs. A. Malcolm and E. D. Smith. At the Show the produce was judged by Messrs. Malcolm, Hannah, Hardy, Smith, and Shelley.

#### ROYAL AQUARIUM, WESTMINSTER.—SEPT. 9TH AND 10TH.

As a Show of early Chrysanthemums alone the Exhibition held on the above dates would have been of small dimensions, but as it was supplemented by a splendid display of Dahlias an excellent Show was provided. A few notes on the principal features are appended, time and space not permitting of full particulars.

In the Chrysanthemum section Mr. Vince, London Cemetery Co., Highgate, showed well. He had some well-flowered and healthy dwarf bushes in the class for six plants in not larger than 8-inch pots, and won from Mr. W. Wells, Earlswood. Messrs. Reid & Bornemann, Sydenham, were placed first for a group, their plants being well arranged, freely bloomed, and many of the flowers good; W. H. Lincoln, yellow, was very fine. Mr. Vince was second with an excellent group; and Mr. H. J. Jones, Ryecroft Nursery, Lewisham, was third; an extra prize

being awarded to Mr. Norman Davis, Lilford Road Nurseries, Camberwell, London, S.E. These were all highly attractive. For a collection of cut Chrysanthemums, any varieties, in bunches, Mr. Robt. Owen, Castle Hill, Maidenhead, was placed first, and these, with the other exhibits in the same class, formed a very bright display. Some of Mr. Owen's seedlings were very promising, and R. du Meniel de Montchauveau, Marginata, M. Zephyr Lionnet, M. Vauvel, Madame C. Desgrange, Autumn Queen, Souvenir de M. Menier, Golden Madame Desgrange, Mrs. Burrell, and Empress of Germany were very attractive. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was second with beautiful bunches of Jacintha, Mrs. Hawkins, Blushing Bride, Strathmeath (a charming pale rose variety), Golden Shah, Mrs. J. R. Pitcher, and others. Mr. Such, Maidenhead, and Mr. Vince also had good collections. Mr. Calvert, gardener to J. A. Houlton, Esq., had a grand lot of Madame Desgrange, and also a splendid stand of G. Wermig, being placed first in each case. Mr. Douglas's stand of Madame Desgrange was also very fine. Mr. W. Beech, gardener to L. Seligman, Esq., won with six in each class. Mr. H. Neary, gardener to the Rev. R. W. Powell, was first with Pompons.

Cactus and Decorative Dahlias were a rich display, Messrs. Cheal and Son winning in the trade section, and Mr. Glasscock in the amateurs' classes. Other charming stands came from Mr. Seale, Messrs. Keynes, Williams & Co., Mr. J. T. West, and J. G. Fowler, Esq. Singles were not so numerous, but Mr. Girdlestone had a very attractive stand. In the nurserymen's classes Messrs. Cheal & Son had a very fine display. Mr. Glasscock and Mr. West both showed Pompons well amongst the amateurs, and Messrs. Keynes, Williams & Co., and Mr. Seale won in the nurserymen's section with splendid stands. The largest Dahlia class, however, was that for sixty blooms of Show and Fancy Dahlias, and Messrs. Keynes, Williams & Co. were the winners of the first prize, their flowers being in grand condition. Mr. Seale also had a very fine stand, and was placed second; Mr. C. Turner, the Palace winner, being third. Mr. Arthur Rawlings won with a fine stand in the class for thirty-six. Mr. West was the most successful amongst the amateurs.

The galleries were bright with Dahlias and miscellaneous displays. Messrs. J. Prior & Sons, Colchester, had a beautiful collection of Roses, for which a silver medal was awarded. It was a wonderful collection for the season. Mr. W. Salmon, West Norwood, received a bronze medal for a highly creditable display of Dahlias, Marigolds, and miscellaneous flowers. Messrs. Cheal & Sons, Crawley, had a beautiful display of Dahlias, Phloxes, and Gladioli, for which a bronze medal was awarded. Mr. P. Spinks, Worley, had some excellent Tomatoes, for which a special award was made. Mr. J. T. West, gardener to Mrs. Keith, received a bronze medal for a collection of Show Dahlias. Messrs. W. Paul & Son, Waltham Cross, had a superb collection of Roses, Dahlias, Asters, hardy flowers, and 160 dishes of Pears and Apples. A silver medal was awarded. A similar honour was accorded to Mr. G. Phippen for a splendid display of Dahlias and Liliums in conjunction with foliage plants. E. B. Lindsell, Esq., and Messrs. Burrell & Co. showed Gladioli admirably. Mr. T. S. Ware, Tottenham, received a silver medal for a magnificent bank of Dahlias.



#### FRUIT FORCING.

**PEACHES AND NECTARINES — Earliest Forced Trees.**—The trees have now shed their leaves, and may be syringed with water at a temperature of 140°. It must not, however, be used carelessly; if too hot it will injure the trees, and if lower in temperature it is useless as regards scale, and red spider, thrips, and aphides. The trees being loosened from the trellis, and tied in small bundles for facilitating cleansing operations, wash the woodwork with brush and soap, reaching every angle and crevice. Limewash the walls, and if required paint the wood and ironwork. Pruning will be a light affair, merely thinning the shoots where too crowded or too weak for carrying fine fruits, no shortening being necessary except for the production of shoots for extension. Wash the trees with soft soap solution, 4 ounces to a gallon of water, and afterwards dress with an insecticide, being careful not to dislocate the buds. Tie the trees to the trellis loosely, leaving sufficient room for the swelling of the branches and shoots. Remove the loose surface soil down to the roots, and supply a couple of inches depth of fresh loam containing a sprinkling of bone meal and wood ashes. Avoid heavy surface mulchings of manure, they only exclude air. If the lights have been removed they need not be replaced until the time arrives for starting the trees, as with proper drainage the borders are not unduly saturated by the autumn rains, but where the drainage is not thorough it may be expedient to replace the lights before the borders are soddened by the cold autumn rains. For very early forcing Alexander and Waterloo Peaches are valuable. Waterloo is the brighter and heavier fruit, but in other respects they are similar.

**Second Early Forced House.**—The trees are commencing to shed their leaves, and the lights having been removed in August the buds



are well plumped, and not over-matured as occurs under fixed roofs, especially with such varieties as Early York and Noblesse. The removal of the roof lights prevents the buds falling if taken in time. When the leaves are all down treat it the same in every respect as the earliest house.

**Succession Houses.**—Any trees that have a tendency to over-luxuriance should, as soon as the wood is sufficiently firm, have a trench taken out one-third the distance from the stem the trees cover in trellis and quite down to the drainage, so as to detach all roots, and this may be left open for a fortnight; then the soil may be removed down to the roots and picked from amongst them with a fork, laying-in the roots in fresh material; good loam rather stiff being best, with about a sixth of old mortar rubbish. If a good watering be given the roots will soon grow freely in the fresh material, and the fruits invariably set well afterwards. In removing the soil care must be taken not to disturb the roots enough to cause the sudden collapse of the foliage. Defer root-pruning and lifting until the leaves give indications of falling. The above plan is more especially necessary with young trees, the taking out of the trench being very effectual in assisting the wood to ripen thoroughly.

**Late Houses.**—Late varieties are remarkable for size and beauty, and if given proper supplies of water and liquid manure are excellent in flavour. When kept too warm and dry they are apt to be deficient of juice. A free circulation of air is necessary, utilising sun heat if the fruit is backward, as with ventilation in the early part of the day the temperature may rise up to 85° or 90°, which is of infinitely more value than fire heat at a later period. The trees must have sufficient water, but a rather drier condition at the roots is advisable when the fruit is ripening. Keep the wood thin, stop any growing shoot to about 15 inches, and all laterals closely to one joint as growth is made.

**VINES.**—*Young Vines.*—These must have every encouragement in keeping the foliage clean, removing all laterals, as growth produced after this period is of no value, and maintain a warm well ventilated atmosphere until the canes are ripe. The ripening of the wood may be accelerated by keeping the house rather close in the day, so as to secure a temperature of 85° to 90° from sun heat, opening the ventilators at night. Any supernumeraries intended to fruit next season should have the laterals cut away to the principal buds, leaving, however, an outlet for any excess of sap by a few laterals at the top of the cane, and be careful not to injure the principal leaves.

**Late Houses.**—Muscats and other late Grapes still require fire heat, as they are late this season, accompanied with a free circulation of air, continuing it until they are thoroughly finished. Muscats should have the foliage rather thin, indeed the leaves may be tied aside, as it is necessary the fruit have abundance of light and air, so essential for thorough ripening and producing the amber colour characteristic of good quality and finish. Keep the night temperature at 65° to 70°, with a fall of 5° through the night, and turn the heat on in good time in the morning so as to allow an increase of ventilation and the temperature to be raised to 70° to 75° so as to insure to the Grapes a long ripening day, the temperature being kept at 80° to 85° from sun, and with a free circulation of air, 90° to 95°. The heat should be kept up by reducing the ventilation with the declining sun, and the temperature allowed to gradually decline at night, only keeping warmth in the pipes to allow the top and bottom ventilation to be left open to a slight extent so as to insure a circulation of air, and prevent the deposition of moisture on the berries during the night. This should be continued until the Grapes are thoroughly ripe and finished, when a gradual reduction of temperature must take place, otherwise the fruit will shrivel; this must be further guarded against by not allowing the border, especially inside, to become dry. If there is any fear of this a good watering should be given on a fine morning when air can be freely given, and the border may be covered with dry material to keep down moisture. A temperature of 50° to 55° is necessary for keeping Muscat Grapes in good condition after they are ripe, and other houses of late thick-skinned varieties will require a similar temperature for the benefit of the Vines.

**Late Houses of Hamburgs.**—The Grapes are well advanced in colour and ripening. A gentle warmth in the pipes is necessary so as to admit a free circulation of air and to maintain the temperature at 60° to 65° at night. A little artificial heat during the day will also be of benefit in allowing free ventilation and making the most of sun heat. Hamburgs colour and finish best beneath a good spread of foliage, but it is well not to encourage lateral growth now, at the same time the tendency to shanking is accelerated by large reductions of foliage, and equally so by sudden fluctuations of temperature. A little air may be admitted at top and bottom until the Grapes are ripe. If there is any deficiency of moisture in the borders it will be better to give a supply of water now than delay it until a later period, covering with dry material so as to prevent damp rising. Outside borders will in most instances be sufficiently moist, if not they must be watered, and unless the weather become wet they need not be covered at present, but light shutters or tarpaulin should be in readiness for placing over them so as to throw off heavy rains.

#### PLANT HOUSES.

**Fuchsias.**—Young plants that are rooted should be placed singly into 3-inch pots, well watered, and arranged on a shelf close to the glass. Keep these plants steadily growing throughout the winter, and then if transferred into 5-inch pots they will flower early and prove useful for decoration. Where plants have not been rooted cuttings may still be

inserted, young wood being selected, and as soon as they are rooted pot them singly, and give them a start in heat. When this practice is followed it is necessary to carefully harden the plants before placing them into cool quarters. A temperature that does not fall below 45° will keep them moving during the winter.

**Solanums.**—Plants that have set good crops of berries and have been kept in pots should be supplied with stimulants. Soot water in a clear state is most beneficial for these plants; it acts quickly, and prevents the foliage turning a sickly yellow. Careful watering and feeding are necessary after the pots are filled with roots, or the foliage is liable to turn yellow and spoil the appearance of the plants. Those that were planted out and have set well may be lifted and placed into suitable pots. Where there is abundance of frame room and the Solanums were planted out the plants have a beautiful crop of berries; but outside plants in many localities are not satisfactory. After the plants are lifted and potted in loam and one-seventh of manure, place them in a northern position and give a good soaking with water. Syringe frequently until they commence root activity, when they may be placed in a sunny position.

**Bouvardias.**—Plants outside are growing too soft owing to the damp, cold, and sunless weather. Lift all those that are making robust growth and place them into 6 and 7-inch pots, according to their size. Establish them on the principle advised for Solanums. When they will bear exposure to the sun arrange them in frames or in a cool greenhouse where they can enjoy full sunshine. Plants lifted at once will, if the present month proves fine, have every chance of ripening their wood and flowering profusely. Bouvardias in pots under glass must not have their shoots pinched again, but allow them to extend and form trusses. If staking is needed supply a central stake, and support the other shoots with matting. The trusses are not heavy, and thin pieces of matting will support them equally as well as using more than one stake. Feed plants in this condition with weak stimulants every time they need water. Yellow thrips are troublesome, but can be kept under by a free use of the syringe. Fumigation may be resorted to if syringing does not at once check their ravages.

**Mignonette.**—Plants grown for standards should have the flower trusses removed as they appear, and the shoots tied to the trellis once a fortnight. Keep the plants perfectly cool, so that strong growth will be made until the trellis has been covered, when they may be allowed to come into flower. Later plants required only for spring flowering should be supplied with their trellis, and given the same treatment. Let the whole of these plants stand on a moisture-holding base, and during bright weather syringe twice daily. Plants for pyramids can be tied to the wires or string as they extend. Care is needed to furnish the base first. Water carefully, do not give too much; on the other hand, do not allow them to become dry. Once they are allowed to approach dryness the plants become woody, and they seldom do well afterwards. Mignonette from seed sown in 6-inch pots and kept in frames until germination should be liberally thinned. Failure frequently results from allowing too many seedlings to grow together in the same pot. About half a dozen are sufficient. Sow more seed thinly for spring flowering. Place the pots in a frame, and shade until the seed has germinated, when the plants enjoy full light and abundance of air.

**Calceolarias.**—The earliest seedlings are large enough for small pots, place them singly into 2-inch, and grow them in cold frames. Those of a smaller size should be pricked out singly into pots or pans, 1 inch apart, so that by the time they fill the space they will be ready for potting singly. Shade from the sun, and keep moist.



#### APIARIAN NOTES.

##### BEES AT THE MOORS.

AN improvement in the weather appears to be taking place, and should it continue for ten days the yield of honey will be great, as the Heather could not be finer. On the same moors from thirty to forty years ago I have known after swarms set down 14 lbs. in weight rise to 1 cwt., when prime swarms would be making much less progress, and swarming. This demonstrates in a clear manner the value of young queens in hives early enough to allow the brood to be well forward at the proper time, and proves the fallacy of the dictum that "young queens do not breed much till they are three months old." Where the honey gathering is of long duration hives judiciously managed with young queens provide the key to profitable bee-keeping.

##### SLAUGHTERING DRONES.

Notwithstanding the very untoward season here for bees few drones were killed till the 17th ult. On that day a general onslaught was made both at the moors here and at home. Queenless hives, and those with unfertilised queens, were no exception;



but why was this? To me it is a mystery. But doubtless the knowledge of coming untoward weather possessed by the bees had something to do with it, and the simultaneous attack at two separate places makes it the more remarkable.

#### STOCKS FOR 1892.

No time should be lost in having stocks made up for the ensuing year, keeping none but tested young queens and rejecting those of a puny appearance. Of course the judicious bee-keeper will have a few surplus ones to make a choice from, and it will be wise to preserve several in case any blanks occur at a time when queens cannot be had. Not unfrequently in olden times we could depend upon hives having extra prolific young queens, although the hive in autumn was not half full of combs, but since we have had a succession of untoward springs such stocks cannot be depended upon.

To expect success, hives should be filled with worker comb in the autumn to as near as is consistent with a due proportion of drone comb, but not more. Hives containing nuclei can be readily filled with the pollen-laden and partially filled combs of condemned hives. Such hives constitute the very best stocks for another year, and will not fail to give the bee-keeper entire satisfaction.

#### PUNIC QUEENS.

I have a good opportunity of isolating queens for pure fertilisation. If spared till another year I shall probably make the experiment, but fear I shall be unable to rear them in sufficient numbers to be a paying concern. Had I been stronger it might have been otherwise, but I must content myself with bees as a recreation, not as a trade.

#### CORRESPONDENCE.

Already I am in arrears with a number of queries and some interesting statements. The former will be answered and the latter made use of when writing facilities are greater than among the Heather.—A LANARKSHIRE BEE-KEEPER.

#### DRIVEN BEES AND HOW TO TREAT THEM.

We will suppose the bees are driven as directed in my last, and that the skep containing them is on the original stand, that a frame hive is at hand properly prepared, and all the colonies at present to be in skeps, and that no frames having combs in them are available.

#### HOW TO FIX FOUNDATION IN THE FRAMES.

Take full sheets of foundations—that is to say, of a size when fixed in the frames that will hang about half an inch from the bottom bar, and be within an eighth of an inch of either side of the frame. If the frame has a saw-cut in the top bar the foundation can be easily fixed in the manner described in my little book as follows:—"Take a piece of  $1\frac{1}{4}$  inch board, 17 inches long, and 3 inches wide; drive two  $1\frac{1}{2}$  inch French nails through it in the centre longitudinally 2 inches apart, so that they project a quarter of an inch on the under side. Turn the board over, and screw or nail it to a bench or table parallel to its edges, and it is ready for use. Put the strips or sheets of foundation on the table beyond the board, the frames on your left hand with the top bars towards you, and the hive into which the frames are to be put on the floor to your right. Take a frame in your left hand and place the saw-cut in it over the nails; take up the foundation with the fingers and thumbs of both hands, rest the edge of foundation in the saw-cut, and pass the thumbs round the sides of the frame, holding the foundation between the fingers and thumbs; then give the frame a slight turn, pressing it against the nails to open the saw-cut wider, and insert the foundation, pushing it well into the saw-cut, when on releasing the frame it will be securely fixed. Lift the frame off the nails, carefully turn it over, and hang it in the hive as it is to remain." The majority of frames are now made with a saw-cut, and the above is the most convenient way of fixing foundation in a satisfactory manner.

#### METAL ENDS FOR KEEPING DISTANCE.

The frames should be furnished with some means of keeping them in the position required, and metal ends are now generally used for that purpose, preferably those known as the W. B. C. ends, because with these we are able, when using full sheets of foundation, to space the frames  $1\frac{1}{2}$  from centre to centre until the combs are built out, when they can without difficulty be altered to the distance the bees build in the natural way in a skep. The object of placing the frames closer is to prevent the newly built-out comb from breaking down.—JOHN M. HOOKER.

#### PRICES OF PUNIC QUEENS.

MAY I ask our friend from Hallamshire how he could afford to sell, or rather to advertise, Punic queens at 2s. 6d. in the *B. B. Journal* of last year (May 15th to July 24th), and also in the *Record*, while he now writes in your Journal that he asks £5 5s. for a queen, and of course, he "considers them cheap at the price?" I also notice that he wishes to prevent people writing to him for a queen on the expectation of getting one for 5s. I did not know until I saw this week's Journal that "A. H. B. K." and the advertiser mentioned above were one and the same; but although he certainly praises the Punics very much, I for one am not sufficiently verdant to part with £5 5s. until I hear more about the Punics from our friend from Lanarkshire and others who are not interested in their sale.—SPREAD EAGLE.

#### TRADE CATALOGUES RECEIVED.

Dobbie & Co., Rothesay.—*Autumn Catalogue*.  
Charles Sharpe & Co., Sleaford.—*Spring Flowering Roots*.  
Barr & Son, King Street, Covent Garden.—*Catalogues of Daffodils and Bulbs*.  
J. Jefferies & Sons, Cirencester.—*Catalogue of Bulbs*.  
Robert Sydenham, Tenby Street, Birmingham.—*Unique Bulb List, and How I Came to Grow Bulbs*.  
H. Cannell & Sons, Swanley, Kent.—*Book of Reference in Horticulture*.  
Charles R. Shilling, Hartley Wintney, Winchfield, Hants.—*Catalogue of Trees and Shrubs*.  
James Veitch & Sons.—*Catalogue of Plants*.



\*\*\* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Phyllocactus** (*L. A. J.*).—The plants flower at different times, but often in the spring or summer, and are of great decorative value. You will not, however, find them of much use for cutting purposes, as the flowers do not last long.

**Cordon Pears** (*W. Morris*).—There are no finer Pears than those grown as cordons against walls where the soil is of the best character and the management of the trees correct. Our remarks apply to Pears grown in the open air, not under glass.

**Tomatoes** (*C. B. G.*).—You should have written sooner. Replies to Wednesday's letters have to be held over for another week, or be very brief. Do not use the mixture on the fruits if you can help it. We have not heard of injury, but should prefer to wash dressed fruits before using them.

**Vitis heterophylla** (*York*).—This variegated Vine requires all the sun it can receive, and not enriched soil. A shaded position and liquid manure would have the effect you describe. This Vine is employed as a groundwork in bedding, and colours well in the open ground. The growths are cut close back in winter, as if cutting down Pelargoniums.





## WOOD RIPENING AND ROOT-PRUNING.

**A**FTER so wet and sunless a season as we have experienced special attention ought to be given to Vines and other fruit trees, so as to assist them in every possible way to ripen, as far as practicable, the strong sappy growth many trees have produced. Peach trees from which the fruit has just been cleared should have all the young shoots not required for next year's fruiting, or for filling up vacancies, removed at once, and the shoots spread evenly over the surface of the trellis, so as to expose them to every ray of sunlight. If the shoots are tied here and there, it will be sufficient to keep them in position till the general clearing and retying takes place in the winter. All lateral growth, if any still remain, should of course be unsparingly removed. If we happen to be favoured with fine bright weather for a few weeks during September and October all may yet be well, as trees generally are unusually clean and free from insects. The great desideratum is sun to ripen the wood.

Where trees have made extra strong wood a trench should be cut round them from 3 to 5 feet from the stem according to the size of the tree, and if roots are not plentiful at that point remove the soil nearer to the stem till strong roots are formed. These should be carefully preserved and the soil worked out from between them a few inches beyond the point at which they were cut with the spade. The surface soil should then be removed from the remainder of the ball right up to the stem. If but few roots are formed near the top take out another layer of soil, and continue to do so until a fair quantity of roots is formed, as it often happens when trees make over-strong growth that their roots are found to have penetrated deeply into the soil, and are strong and almost devoid of those little fibry rootlets which fruit growers know are so necessary for the production of high-class fruits. As soon as the old soil has been removed all the roots left should be cut at the ends with a sharp knife, and a few of the strongest notched at intervals to cause them to send out fresh fibres. The trench should then be gradually filled in with good sound loam, with which lime rubbish at the rate of one part to six has been mixed. As the work of filling the trench proceeds work the compost carefully among the roots, and those which have been completely freed from the soil right up to the main stem must be raised and brought near the surface, trenching the soil moderately firm as the work proceeds.

Should the leaves show any sign of distress after this operation has been performed shade and syringe for a few days, but do not let the shading remain on a day longer than is necessary to keep the foliage fresh. Trees treated in the way described often produce exceptionally fine fruits the following season. When the root-pruning is done thus early it has the effect of greatly checking the flow of sap, and therefore stopping growth. The energies of the trees are employed in plumping the buds and solidifying the growth already made, while roots are being formed ready for the work of another year's active growth. Trees with weak wood generally produce abundance of fruit, but to obtain really fine specimens strong shoots well ripened are required.

Vines with the fruit ripe or ripening should have all lateral growth promptly removed, that is, growth which has been recently made, or which has been allowed to become somewhat crowded. Care should always be taken not to cut away a great amount of growth at one time. If from any cause the laterals have been allowed to unduly extend, remove a few at a time, and arrange the others so that they will not interfere with the main shoots. Extension of lateral growth early in the season is often of great benefit to Vines, but as the season advances it must gradually cease, especially in a dull season like the past, so that by the present date every leaf retained is thoroughly exposed to light and air. Wherever laterals make their appearance they should be rubbed off at once, for they not only have an injurious effect, by keeping out the sunlight from other shoots, but are also very susceptible to mildew at the present season, especially in districts which have a naturally humid atmosphere.

Those who have vineries situated on high ground, provided they have the control of plenty of water, have, in my opinion, a great advantage in Grape growing generally, and more especially where perfectly finished bunches fit for the show table are required.—H. D.

## SULPHATE OF COPPER AND THE POTATO DISEASE.

I READ the leading article on "The Potato Disease and Remedies" in your issue of the Journal, September 3rd, with particular interest, because last year and this also, I, as an amateur Potato raiser and grower, experimented with the solution of sulphate of copper and quicklime as an antidote to the Potato murrain. I have not used these chemicals as a dry preparation, and therefore am unable to pass any opinion thereon; but if they are used as a solution of proper potency I am well satisfied from my own experience that they are effectual in opposing murrain onslaughts.

Several recipes for making the solution have been published; but some of them are not absolutely reliable, because, if the solution is too strong, it corrodes the tissues of the leaves, and does almost as much injury as the fungus would. My proportions have been 7 lbs. of sulphate of copper, with an equal quantity of quicklime, to 20 gallons of water. The sulphate of copper should be bruised to a fine powder before mixing with the water to facilitate solution.

There is some difficulty in the means of application in the case of a field or a large plot of ground, because in using an ordinary garden syringe the lime obstructs the small orifices of the syringe and prevents the free passage of the solution. Doubtless special machines should be available for the purpose. Then, too, the operator must walk between the rows and convey the liquid with him. In continuous wet weather this would be most unpleasant work; the soil, too, in the furrows would be terribly down-trodden and the haulm bruised and broken by the passage of the operator up and down the rows. One application is by no means sufficient. I would therefore recommend that in field culture alleys be left at proper distances for passing along with a small machine.

There is one question of importance which I have heard many ask, "Is the game worth the powder and shot?" My opinion is decidedly yes; for not only is the present crop protected, but the spores and zoospores of the fungus are doubtless robbed of their vitality if they come in contact with the solution. Therefore it is a mode of horticultural sanitation that not only insures immunity from diseased tubers, but must also have a marked effect in reducing the quantity of hibernating germs for the future season.—HENRY FINCHAM.



## AURICULAS.

## CULTURE UNDER HANDLIGHTS.

No doubt since Mr. Bell has done it Auriculas of the higher types can be grown by planting them out under handlights, but I think that "Auricula growing made easy" by this method would only be so in an inverse ratio to the number of plants grown. As a collection increased so must also handlights multiply, and thus the method gradually become cumbrous and laborious compared with the old-fashioned pot culture in frames, still more so as against the well proved advantages of a cool span-roofed Auricula house.

As to pot culture being obnoxious to these plants it is not so. They are by no means greedy of pot room, and indeed never do so well as when the pots are small enough for the plants to fill them with roots. A 3-inch to 4½-inch pot will afford any high-class Auricula sufficient root room. If it be an object to save time and attention in watering the stages may be of flag or slate, with 4 or 5 inches of coarse sand upon them in which to plunge the pots. I write without any experience in handlight culture of the Auricula, but there are several conceivable disadvantages that might, I fear, attend it. Even a moderate collection, say of five plants under each glass tent, would require an encampment of handlights, and what would become of them raised on pots, or tilted in a situation at all open to such winds as have blown during this summer, to say nothing of equinoctial expectations? Perhaps a stake at each corner might help to keep them in position, but in any garden exposed like Mr. Simonite's in Sheffield even this device would fail to keep the flighty and frolicsome handlight on the premises in a high wind.

In many gardens, especially suburban ones, there is certainly the cat and his many friends to be reckoned with, and he may issue his noisy invitations to a garden party, with tilted handlights as one of the attractions of his entertainment. This is no remote contingency where there are cats about. I have grown many seedling Auriculas in the open ground, but have found it difficult under these circumstances to effectually keep down the all but inevitable green fly. This is most troublesome in a spell of dry weather. Syringing with softsoap dissolved in rain water will destroy all the insects visible on upper surfaces of the plants, but the multitudes hidden on the under side of the foliage are difficult to deal with on plants in the open ground. Young offsets under parental foliage are liable to be smothered with green fly, and therefore it is most important that the Auricula should be grown in such a way that each plant shall be under complete supervision and control, and easily handled. They are not large plants, and whether in bloom or not, they always look best, and do best, when not placed far from the eye. It would be very troublesome to attempt fumigation under a series of handlights, and, probably, in such small confined spaces it would not be safe.

Another enemy, to which I think valuable Auriculas under handlights would be subject, is the nocturnal snail. True, that by setting the lights down before dark he might after that time be excluded; but there remain the chances that he may have already walked in on a rainy afternoon, and be only waiting under leafy shelter till feeding time. His touch is ruin to an Auricula flower, and the whole plant, in its fragrance of leaf as well as of blossom, is highly attractive to the snail, though to our tasting its juices are acrid.

In some places small birds will pick the buds of Auriculas and Polyanthus, but particularly the latter. Sparrows are the most mischievous, but here they are too wary to enter the Auricula house, and probably would not venture under a handlight. I would not, however, trust them with valuable Auricula buds in the open.

I should fear that the heavy bumble bee of the spring, who is a great lover of the scented Auricula, and who will get into the Auricula house if he can, would require much care to exclude him from raised handlights. A very slight touch of his wing or legs will blur or scratch Auricula flowers, and of course there is no saving of any trustworthy seed where a bee has had access to a flower. It is doubtless better to grow a few Auriculas than none at all, and to have handlights than no protection whatever; but if there be garden space enough, I should prefer frame culture for a small collection, and a span-roof house for more than a frameful or two of Auriculas.

Mr. Bell will find an Auricula plant of 16 inches diameter in summer not a very uncommon size in the lower orders of Auriculas, and very strong plants in the "self" class will at times be as large, especially if they are new seedlings. Such plants, however, and even smaller, are too big for blooming kindly—i.e., in best character for quality and refinement, and they may subsequently pull themselves to pieces by throwing up two, or even three, flower stems, followed by a weak or divided heart. None of the good edged Auriculas are likely to make such huge plants under sensible treatment.

Mr. Bell includes me in his reference to writers on the Auricula

who do not give their addresses as well as their names. He will, however, find that I have always given both for some twenty years past in the Journal, though in papers few and far between.—  
F. D. HORNER, *Burton-in-Lonsdale, Kirkby Lonsdale.*

## THE PRINCIPLES OF PRUNING.

THE following is a digest of Mr. Wright's lecture at the Crystal Palace on the occasion of the meeting of the British Fruit Growers' Association on the 11th instant:—

Mr. Wright did not prepare a paper, but spoke from short notes, making reference to a number of diagrams, and thus taught through the eye as well as the ear. He said he was aware he had amongst his audience men as capable as himself in growing and pruning fruit trees; some of them could, no doubt, teach him something on the subject, and he should be at least as pleased to learn from them as he was willing to try and teach others who had less education in the school of experience. Hundreds, indeed thousands, of persons were endeavouring to grow their own fruit, and all would wish them success. They needed instruction in pruning fruit trees and bushes, as did many young men who had taken the charge of gardens after gaining most of their experience under glass.

After describing the objects of pruning—namely, producing fruitful trees in required forms adapted to certain positions, also the different kinds of pruning—summer and winter, root and branch—the lecturer said that both symmetrical garden trees, also informal standards and dwarf bushes, could be made essentially fruitful in character. They could not be made to bear full crops of fruit unfailingly, because gardeners could not control the weather and prevent frost destroying the blossom; but if the trees were brought into the best condition of fruitfulness by correct management and methods of pruning, those who had brought them into that state had done their duty. Fruitful examples were shown in diagrams of the different forms of trees—pyramid and bush—from sketches made at Chiswick, and a thrifty, fruitful, open standard as grown at Cardiff Castle, the methods of pruning adopted in producing such trees being shown in each case.

Crowding trees with a thicket of growths in summer to be cut out in winter, a too common habit, was strongly condemned. A sturdy framework was advocated by shortening the branches of young trees for two or three years, then having the main branches so thinly disposed that the sun could shine between them, and directly on the leaves, not near the tips of the shoots only, for that was of small service, but on the leaves near the base for rendering them structurally perfect for performing their important functions in storing nutrient matter in the stems, and so becoming spur and blossom formers and fruit manufacturers. With healthy root action in good soil, a due balance of force between roots and branches, leaves of the best character by the direct action of light and air on their surfaces, blossom buds were bound to form and fruit to follow, weather being favourable to its setting and development.

Particular attention was asked to the following statement.—  
"No matter what kind of trees were in question—restricted and formal, or large and free—all pruning must be based on this fundamental fact—namely, the roots of a tree are part of the stem, the hidden counterparts of the visible branches, and one part cannot be manipulated—weakened or strengthened—without influencing the other." "That," he went on to say, "is the concrete condition on which all action in pruning must be based. The cultivator must not induce by mistaken practice a great preponderating power of roots over branches or branches over roots; he should, in fact, regard roots as what they are—underground stems, and be able to form a clear conception of the parts of a tree within the ground from a critical inspection of the parts above it, shoots and leaves; and until a man can do that he cannot be regarded as a competent, safe, profitable pruner." The lecturer said he had found that a large number of successful fruit growers were distinctly of opinion that as much fruit was prevented by the abuse of the knife as was produced by its use, and he did not call that pruning but butchering. "A butcher," he said, "can cut off limbs and destroy life in doing so; a surgeon amputates and prolongs life by the operation. The butcher's work is physical mainly, the surgeon's intellectual, scientific; and we want intellectual pruning in gardens, not butchering; producers of fruitful trees, not preventers of crops of fruit."

Right and wrong methods of pruning were illustrated; roots were shown as influenced by branch growth, and *vice versa*; both fruitless and fruitful wood were portrayed; the causes that produced certain effects demonstrated, and remedies for obvious evils pointed out. Waste of material was made clear in the form of a dense thicket of summer growths, rampant roots and no fruit on



one side of a tree; spur formation, fruit production with corresponding fibrous roots on the other—the latter the natural outcome of rational pruning. This, it was stated, “consists in disbudding and thinning to prevent overcrowding instead of shortening branches, yet letting the roots extend to create it; encouraging the roots of weakly trees and shortening the branches to promote necessary vigour; but when trees grow too luxuriantly in summer cutting back the shoots in winter is simply followed by more and stronger growths. It is a case of man fighting against Nature, and the combat may go on for a generation, Nature inevitably winning in forcing growth. If man must conquer he must use his brains and change his tactics. The branches of a strong-rooted tree, if kept thin and not shortened, will in time counteract the root power, form blossom buds and bear fruit, weather permitting; but if for special reasons the growth must be arrested and restricted within certain bounds, the roots must be shortened to a greater extent than the branches, especially strong roots that strike deep down in the subsoil; then with otherwise good cultural attention, trees hitherto practically barren will produce valuable crops of fruit.” Mr. Wright spoke for about an hour to a highly attentive audience.

At the close of the lecture Mr. Read of Oatlands Park said that by a change in the system of pruning of the trees in his charge, and especially root-pruning and adding chalk to the limeless soil, much larger crops of finer fruit were had than the trees had ever borne before.

Mr. A. H. Pearson said he could follow what he had heard and seen, because he had been taught fruit culture in continental schools of horticulture, and he was sure that the principles advocated that day were sound. He was glad to have heard them expounded, and should like to have hold of the diagrams.

Mr. Ivatt, a fruit grower in Cambridgeshire, spoke of the great advantage he had found in attending to fruit trees and bushes in summer, keeping them open. The cost was trifling and the practice remunerative, for it gave him finer fruits than he could otherwise obtain, and he had no difficulty in selling it at the best market prices.

Mr. Udale wished to know if root-pruning could not be overdone and trees injured by it. Mr. Roupell wished to know the best time for a root-pruning, and Mr. Rivers said when new roots were produced as they were by the process we should remember the old had exhausted the soil in which the new were formed, and fresh soil should be added for giving them the requisite food for promoting and sustaining healthy growth.

Mr. Wright, in reply to the questions and comments, adduced examples of success through following the methods advised. In reply to Mr. Read, he said fruitfulness could be induced when there was space for extension and thinly disposed growths without root-pruning, but more quickly by its aid. In answer to Mr. Udale, he said undoubtedly trees could be injured by excessive root-pruning; he had seen them killed, but that was butchering, not intelligent pruning. Mr. Roupell was told the best time for root-pruning was early in the autumn when the leaves were changing, and the descending current of sap would cause the smoothly cut ends to callus in a few weeks. He also said Mr. Rivers' remark on giving fresh soil was important, and ought not to be forgotten. Votes of thanks to the lecturers and the Chairman brought the proceedings to a close.

### THE SHOWING OF SPRING ONIONS.

Now that the shows of the year are nearly over we may reasonably talk over the points of interest which have struck us in our various experiences, either as exhibitors, judges, or on-lookers. One matter which, as a judge at more than one show this year, has attracted my attention is the present-day manner of setting up spring Onions. It is not unusual now to find Onions set up as spring Onions as large as any of the autumn-sown ones. To the casual observer this will appear strange, especially when contrasted with the rank and file of the other exhibits in the same class. To the initiated it is not strange, because they know that these very large Onions were raised under glass, some very early in the year, and moved on and on by degrees until they were finally planted out in the open ground, all this being done specially for exhibition purposes. It must be, however, plain to the meanest understanding that all this is not exactly right, or why is there such a wonderful difference between these bulbs and those others, which, of course, were sown in the ordinary manner in the open ground, and at the ordinary time of the year? That is the point I desire to bring out. As a first thought it might be suggested that the Judges ought to disqualify these immense bulbs on the ground that such could not be produced from a spring sowing; but then the Judges are tied down by the schedules, and as these schedules say “Six Spring Onions” or “Twelve Spring Onions,” and the Judges know that these have been, or can be, produced by sowing under glass in the current season, though sown in the late winter or very early spring, they cannot conscientiously disqualify, though they may feel that it is a very elastic reading of the schedule, and that the exhibitor who has read his schedule simply and literally is severely handicapped thereby.

What is the remedy for this? It is for the compilers of schedules to

say. It is clearly a hardship on the man who has read and interpreted his schedule according to the simple and literal meaning of the words, and has acted thereon, to see his honest productions set aside for those which he knows have been produced by sowing under glass as soon as the year came in, or very soon after, and shifted by degrees until they are being planted out, or ready for it, almost at the time his are being sown in the open ground. Will the difficulty be met by the addition to the item in the schedule, “Six or twelve spring Onions, to be sown in the open,” being added thereto?

I should like the opinions of others who may have been interested in this matter, either as on-lookers, exhibitors, or judges. The most conspicuous example of this way of showing was at Shrewsbury, and Mr. Muir of Margam, Mr. Ward of Longford and myself discussed the point, as well as our duties and the time permitted, but not having an opportunity to talk it out and arrive at some conclusion, I thought I would open the subject here, by permission of the Editor, and see if something could not be done to put the honest and literal reader of the schedule on a more equitable footing with his more elastic-minded and forward neighbour. It may be urged that judges would be perfectly justified in disqualifying these very large bulbs, inasmuch as that they are not spring Onions at all, being sown before the calendarial spring (March 21st), but then the feeling is that this would be as arbitrary an interpretation of the schedule as the other is an elastic one. Clearly there is a want of fairness and equity in the present way of showing, but how to remedy the matter is somewhat difficult.—N. H. POWNALL, *Lenton Hall Gardens, Nottingham.*

### APPLE BENONI.

LAST week reference was made to this pleasant September Apple, and we now give an illustration of one of the fruits that was grown on

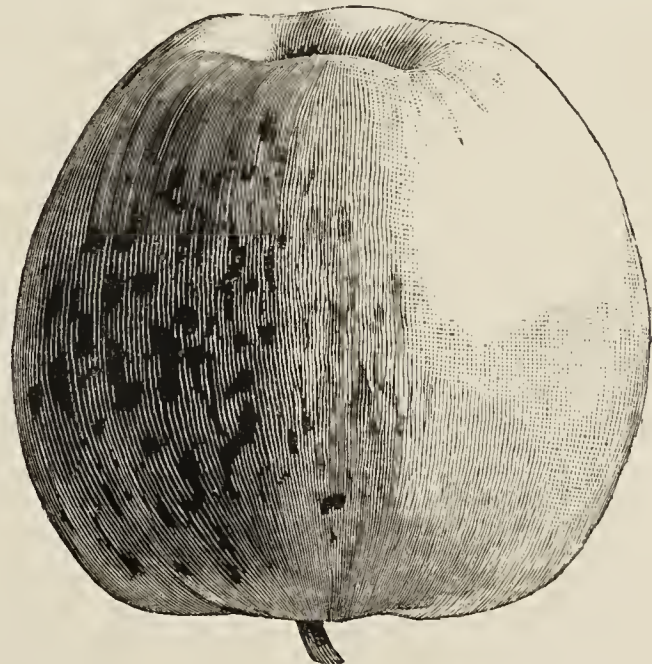


FIG. 43.—APPLE BENONI.

a pyramid tree at Chiswick. The crop was one of the best, and the tree is one of the healthiest growers in the collection, being upright in habit, and hence well suited to borders in gardens. Mr. Barron regarded it as one of the best varieties for following the summer Apples such as Mr. Gladstone, Red Astrachan, and others, and preceding the regular autumn Apples. The quality of the Chiswick fruit was good, pleasant, and refreshing, but we have tasted fruits richer from Sawbridgeworth, while in Kent we have heard the variety is not regarded as superior. Soils and circumstance have their influence on fruits; but, generally speaking, Benoni may be regarded as a September Apple well worth growing.

### FAVOURITE FLOWER BEDS.

I HEREWITH send a few combinations which have struck me as being novel and effective. Two years ago I saw a particularly effective arrangement, composed of strong flowering plants of *Veronica Andersoniana variegata* intermixed with *Lobelia cardinalis*. The bed was isolated, and there was nothing to interfere with the beautiful soft blue of the *Veronica*, and the deep dark crimson spikes of the *Lobelia*, the creamy white and green foliage of the first-named plants providing a harmonious undergrowth.

Last year one of the prettiest mixtures I noted was a combination of yellow and white *Chrysanthemum coronarium* fl.-pl. in front of a cottage. I pirated the idea, and this season have a long background of these planted alternately. The combination in most, or perhaps all instances, where white and yellow are employed is of great beauty.

An exceedingly soft and harmonious flower bed of the present year is composed of a large central block of a dwarf *Ageratum* planted alternately with the rosy flowered *Crystal Palace Gem* *Pelargonium*. This is a combination, as most flower gardeners will notice, of rose, soft



yellow, and lilacy-blue. This block of colouring is encircled with a band of Crystal Palace Gem Pelargonium, this again with a band of Agcratum; then outside of this a narrow line of Mesembryanthemum cordifolium variegatum, and the edging of Lobelia Lady McDonald, the idea of toning down the yellow and blue with the last two plants being successfully compassed.

A series of beds very simply planted is also very effective. The centres are Königa variegata dotted thinly with Pelargonium Flower of Spring, and surrounded with a band of Lobelia Brighton Blue, and this, again, edged with Lobelia Lady McDonald. The colouring of the series of beds of which the above form a portion is provided mainly by Henry Jacoby Pelargonium, but the combination of light blue, emphasised by the deeper shade of blue, which stands out from the block of soft white and deep rose, to which it lends character, is what I mainly wish to make a note of here.

I am sure that the designers of flower beds fail more often in providing a suitable finish in the shape of edgings than is generally thought. I have had many opportunities of inspecting flower beds in different parts of the country during the present season, and I could not help noting this defect. A soft finish is generally the best, but this is not always necessary, and even bright yellows or deep scarlet may on occasion be employed. The main reason for edgings in summer bedding is to provide a harmonious finish, and either to tone down the principal colouring, to emphasise its effect, or to carry the general character on to other beds or borders. The subject, however, is too wide for discussion in this short note.—B.

THE interesting notes on this subject contributed by "E. M." show that this matter is receiving the attention it deserves in some quarters, and the effective combinations he so well described should stir others up to attempt the grouping of plants in mixed beds on the lines your correspondent indicates, so that we may have abundant variety of form and elegant growth as well as bright colours in our flower garden arrangements. I have long held the opinion that in the majority of plant and flower decorations too much attention has been paid to bright colours without giving sufficient weight to the effect produced by associating with them plants of graceful habit of growth. This not only applies to flower gardening but also to groups of plants and flowers arranged in glasses. By all means let us have bright colours, but as showy flowers so often have a somewhat formal outline let their beauty be enhanced by association with those which possess what they lack—viz., grace and beauty of outline. Zeas, Abutilons, Humea elegans, Fuchsias, the many varieties of ornamental Grasses, Acacias, and Maples are all useful for the purpose, and a further record of favourite beds worked out in various gardens would, I am sure, prove very instructive.—D. W. G.

#### HARDY FLOWERS AT EDGE HALL, MALPAS.

ONE day in the last week of August a solitary pedestrian with umbrella overhead might have been seen wending his way from Malpas Station, Cheshire. Rain was falling heavily, the roads were wet and anything but pleasant, and two uncomfortable thoughts would persist in intruding themselves upon his mind. The first that the Rev. C. Wolley Dod, the well-known owner of Edge Hall, might be from home; and the second, that the heavy rain might prevent his accompanying the writer through the gardens, in which are grown his famous hardy flowers. Had either of these uncomfortable ideas resolved themselves into actual facts great would have been the writer's loss. As it was, however, he need not have entered the domains of Doubting Castle, as fortunately Mr. Wolley Dod was at home, and, as fortunately, the rain ceased when we were about to begin our round of the flowers. I question much if the rain would have put a stop to our inspection, as Mr. Wolley Dod did not mind it, and it would have taken a torrent to have quenched my enthusiasm to such an extent as to have prevented my viewing the flowers. The fine old hall in itself would have been worthy of a visit, but there was so much to be seen among the plants that the time flew all too quickly, and I had eyes for little but flowers, which were magnificently grown, and which far surpassed my anticipations.

With so much to write about I must confess to feeling some difficulty as to where to begin. To the rockeries on the grass, however, we first directed our steps, and there perhaps we had better start. I shall make no attempt to describe these, as I noted more particularly the plants grown upon them than the style of their construction. All, however, were built and planted with exquisite taste and skill. No attempt at formal arrangement is made, but mounds of Saxifrages, sheets of Campanulas, masses of Alpine Pinks, Drabas, Androsaces, Dryas, and countless other plants grow in a manner I have never seen surpassed. "It is too late to see this; it is a May and June rockery," said my courteous guide. Late it was to see the flower, but not too late to see the magnificent growth of the plants. Nor was it too late to realise in one's mind what must be the beauty of the rockwork when these grand rosettes of Saxifraga longifolia uprear their spikes of bloom; when Dryas octopetala unfolds its white blossoms, or when D. Drummondii expands its yellow flowers, and when countless other "stars of earth" shine from the rockwork like in beauty to the stars which bedeck our winter's sky. Nor is it yet too late to see some plants in flower. A number of plants of that beautiful Campanula—isophylla alba—were in full flower, and like everything else was beautifully done. A very beautiful Sedum—S. maximum—was also very fine, and it was all the

more interesting as I had not seen it before. The heads of flower are large and of a fine deep crimson. The habit is more erect than is that of many of the other species, and it is a plant well worthy of growing if it can be procured anywhere. Several other Stonecrops were in flower, but this was the most attractive to me. Very remarkable, too, were the many magnificent plants of Saxifraga longifolia. They had been raised from seed by Mr. Wolley Dod, and varied much in form. Some had the leaves more incurved than others, some were much broader in their leather-like foliage, but noticeable in all was their great size, some two rosettes in particular being of such an immense size that I shall refrain from attempting to put on paper my estimate of their diameter. This Saxifraga abounds at Edge Hall, and adds much to the beauty and interest of the rockeries. I have no time to speak of the many other Saxifragas grown, but must pass on to speak of other things.

Remarkable as are the Saxifrages equally so were the Ramondias. I was quite surprised at the many fine plants of R. pyrenaica growing so luxuriantly. We find it difficult to manage well in this locality unless covered with a frame or handlight to retain the moisture about the plant. At Edge Hall this was not done, but Mr. Wolley Dod keeps his plants as dark as possible, but in what one would call a natural way. They are planted behind a large stone, which gives the necessary shade. The only approach to artificial protection from the sun appeared in one place where a low close fence kept the sun's rays from reaching the rockery on which a large number of plants were growing, and which sloped downward from the fence. Here a considerable number of seedlings of R. p. alba were growing well but had not yet attained a flowering size, so that it had not been ascertained if they would come true from seed. R. serbica and the allied Haberlea rhodopensis were grown in a similar manner. Many of us might, with profit, endeavour to imitate Mr. Wolley Dod's method. I was particularly pleased with the use made of Sempervivum arachnoideum and various Sedums by planting them in fissures and hollows of the stones of the rockery. As in nature many stones are adorned with various mosses and lichens, so in cultivation we might well adopt other mediums for a similar purpose, and thus add to the interest and beauty of our gardens. This little Cobweb Houseleek seems a great favourite at Edge Hall.

We now pass into what may be called the herbaceous garden proper, and here I was quite unprepared for the scene of beauty which presented itself. I was almost transfixed with surprise and admiration at witnessing a splendid clump of Boeckonia cordata. I have seen it well grown many times, but I had never supposed it capable of forming such an ornamental object in the garden. This mass was taller than any I had ever seen, but I do not mean to estimate its height, for truth to tell, one had little inclination to descend to feet and inches with such a splendid plant. The great spikes of Oak-like leaves with the wealth of creamy coloured flowers will remain imprinted upon my memory for many years—should these years remain to me. But here we were passing from one object of interest to another. Asters, say you! Well, Mr. Wolley Dod has a great knowledge of Asters (what hardy flowers does he not know about?) and he tells me, to my great regret, that it is almost impossible to determine the names of many of our perennial Asters. Those of us who are at our wit's end to name our Michaelmas Daisies would be glad to give the Chiswick Conference in October almost a *carte blanche* in the way of the names of these plants. One magnificent Aster in Mr. Wolley Dod's large collection of this family is a comparatively new one, A. Thomsoni, and is so fine as to be worth looking after. The flowers are very large, of a deep purplish blue, and the plant, although attaining a good height, is very neat and compact. Another good flower closely related (although relegated to another genus) is Boltonia asteroides, synonymous, according to Asa Gray, with B. glastifolia. This is not nearly so fine as Aster Thomsoni, but there are many inferior plants of the Asteraceæ in our gardens which might well give a place to this Boltonia.

Very fine, too, in this garden are the yellow-flowered Composites. Many of this family are, it is true, closely alike in appearance, but our gardens would be sadly deficient in colour if they were deprived of their welcome shades of yellow. The Edge Hall collection is a large and select one. Helianthus doronicoides is very good, with tall slender stems surmounted by good yellow flowers with dark centres. Imposing, too, is a very tall variety of Helianthus multiflorus, probably the one grown as H. multiflorus maximus. The Edge Hall variety of Heliopsis lævis is now known to be distinct from another offered by the trade. A large clump of this had a fine effect, and I admired it very much. The exigencies of space must make me leave unnoticed several others of this family, but mention must be made of one not often met with, Chrysogonum virginicum. This is a neat little plant, growing about 1 foot in height, with small bright yellow flowers, and is of a somewhat prostrate habit.

Among the many fine effects in garden arrangements which were to be seen in passing through the gardens, none, I think, surpassed that produced by a line of Anthemis tinctoria pallida planted at the base of a hedge. Some of the plants drooped gracefully forward, touching the ground with their flowers, while others growing through the branches of the hedge were upright, and their flowers projected from its surface. The effect was a charming one; the pale yellow flowers showing beautifully against the dark foliage of the hedge. Mr. Wolley Dod informed me that he had had it photographed, and such a beautiful arrangement was well worthy of permanent preservation. Close to this were large numbers of plants of A. tinctoria, and a white variety, A. t. alba. Noticeable, too, on the same hedge was Lathyrus tuberosus (Sibthorpi?) a good climbing Pea with small but bright purple flowers. I was



informed that this is a troublesome weed in some parts of the south of England, but it is a "weed" some of us in the north would be glad to have in our gardens.

*Veratrum nigrum*, the Black Hellebore, is grown in quantity, and a large mass in full flower was a grand sight. Alongside were plants of one of the other varieties, which generally flower more freely than the black, but they have not flowered at all this season. Although past its best, a plant of *Spiraea kamschatica* (gigantea) had been very fine. A plant such as this, 9 or 10 feet high, with grand flat heads of white flowers must have been an object worthy of all admiration when in good condition. Passing on among hardy flowers in endless array we came to a bed where *Acæna microphylla* or *Novæ Zealandiæ* was apparently revelling in a congenial spot. It was simply splendid to see the mass of yards of crimson spikelets covering the ground like a carpet. Most effective, too, were the best grown plants I have ever seen of *Chrysanthemum latifolium*—seedlings of Mr. Wolley Dod's raising. The flowers were large, broad petalled, and of purest white, some being beautifully notched at the ends of the petals. Deeply interesting were some of Mr. Wolley Dod's seedlings—one a hybrid between a Sweet William and an Alpine Pink; another a tall, large-flowered white *Polemonium*, a seedling from *P. flavum*, and probably crossed with *P. cœruleum*, but finer than either. Another good seedling was a pure white *Aconitum*.

Time and space fail me, however, in my task of endeavouring to tell something of the plants in this wonderfully beautiful garden. I have still notes of many interesting plants I saw. *Eryngiums*, with spikes and heads of blue of various shades, such as those of *E. giganteum*, *amethystinum planum*, and others; *Echinops*, *Iberises*, *Campanulas* of all sorts and sizes; a beautiful clump of *Potentilla nepalensis*, which is an old favourite of mine, and which I shall now know to plant in a mass; *Epilobium Fleischeri*, *Veronica virginica alba*, a mass of grand white spikes; *Lysimachia clethroides*, *Dianthus*, *Androsaces*, *Gentians*, *Cimicifuga racemosa*; *Centaureas*, *ruthenica* being highly praised by Mr. Wolley Dod; *Cytisuses*, *Hypericums*, *Phloxes*, and a host of others make me feel ashamed that I have had the temerity to attempt to write here of what would require the whole of the Journal to treat aright.

I have said little of the courtesy and kindness shown to me by the owner of this beautiful place. I have said nothing of the vast stores of knowledge regarding his favourite flowers which he possesses, and which he does not regard as for his own benefit alone, but which he is ever ready to impart to others in such a manner as to make a walk through the gardens in Mr. Wolley Dod's company so interesting and so edifying that I was loth to tear myself away from a guide so courteous and a scene so fair. The farewell had, however, to be taken, and I left Edge Hall feeling even greater love for my favourite plants, but regretting that my little garden in "Bonnie Scotland" cannot lend itself to yield such beautiful effects. Mrs. Beecher Stowe has written a book with the alluring title of "Sunny Memories of Foreign Lands." I have many "sunny memories of other gardens," but none will linger longer in my mind than that of my visit to Edge Hall, with its incomparable flowers which seem to laugh to scorn my feeble attempts to describe their beauties, but which make one long for the inspiration of some of the poets who can so worthily sing of their loveliness.—S. ARNOTT.



#### LARGE GROWERS IN SMALL CLASSES.

MR. RAILLEM has failed to answer the chief argument, and again evades the main question at issue. He does not appear to be very happy on the ground he has taken up. He must know full well he is wrong, but he does not seem to like to admit it. It was never a difficult problem to solve if the will was there, but as Butler puts it, "Convince a man against his will, he's of the same opinion still."

Reverting to your correspondent's statements. In the first place he states that an exhibitor and his friends took no steps to bring the matter before the N.R.S. in the proper manner. This, I think, he will find erroneous if he will take the trouble to inquire of the Hon. Secretaries. I think he will find a gentleman of the Committee two years ago brought the matter before that body, with a draft of a revised schedule prepared for their consideration and approval. I also forwarded one of a similar character to the last general meeting. Again; has it not been brought before the Committee, and every one of your readers who is interested in Rose growing and Rose showing week after week through these columns? and is it not a fact that the most effective mode of seeking redress for any grievance is through that powerful organ the Press?

Secondly, he states that the N.R.S. have done something in the direction desired by adding one class and two medals. This has no connection whatever with the question of large and small growers. The class referred to is especially for exhibitors who have never before taken a prize at the metropolitan show. When once that prize has been obtained by an exhibitor he cannot enter the same class again.

Thirdly, he states that no such just grievance existed or exists. To

this statement it is sufficient to say, If there were no grievance there would be no cause for complaint. I think I could not do better than refer your correspondent to the observations of the Rev. Mr. Pemberton upon this subject in the *Gardener's Magazine* of August 27th.

In referring to the instance at Hereford Mr. Raillem states that there was no case made out against the schedule or management, but that I admitted justice was done. Justice was done by the Committee in not allowing the exhibitor to re-enter, but had that exhibitor in the first instance entered for twelve instead of twenty-four there is no rule in the schedule that could have prevented his doing so. That is the bone of our contention. That the large growers shall not slide down into the smaller classes.

One word in answer to your correspondent's last paragraph. In backward seasons small growers are just as much handicapped as large ones, if not more, considering their respective requirements, but all that they ask is that they should only have to fight their equals; while what Mr. Raillem requires is, that when he is not up to his usual strength he shall be allowed to slide down and snatch the prize from the man of one-quarter of his equipment! This certainly is not my view of fair play.

As I am tired of continuing a correspondence that seems to lead only to contradiction without argument, Mr. Raillem may retain his own opinion, and I will of a certainty hold mine.—AN EXHIBITOR.

#### A VISIT TO COLCHESTER.

MR. B. R. CANT'S.

WE were glad to see our old friend and his wife and family looking well, and to partake of their never failing hospitality; with "The Trophy" in its old place of honour on the table, and pleasant talk of the present and past seasons we might have been disposed to linger had not the unwonted occurrence of a tolerably fine afternoon urged us to go out to see the Roses.

No one can, I think, deny to Mr. B. R. Cant the foremost place among professional Rose growers, not only from the mere fact of his having most often won championship honours, but also because he may be looked on as quite the veteran pioneer of all Rose growing competitions. That he still so successfully holds his own shows that the famous "Alderney butter" subsoil of his land is by no means exhausted, and that himself, his sons, and experienced foremen are able to keep up the old reputation in spite of the greatly increased competition of young and vigorous firms.

The original *Maréchal Niel* which we used to reverence on the south wall of the house has had to give way to an enlargement of the building, but many fine standard Teas still remain near at hand in full vigour, though of considerable age. From one of these a lovely specimen of *Madame Berard* was cut for us, perfect in form, and most beautiful in its many varied shades of colour. The backwardness and lateness of the season was naturally a theme of general comment. I understood Mr. Cant that by the date on which he cut his first blooms this year he had last season sold £300 worth.

We went first among the dwarf stocks, and in one piece of ground noticed alternate rows of cutting and seedling Briars, which were to be budded with the same sorts in order to test the difference. I was struck with the absence of weeds, which in such a season means not only care and trouble, but also expense. The most troublesome and necessary parts to clean are those where Briar cuttings are being struck for next year's budding—troublesome because the shoots grow horizontally almost if not quite on the ground; and the weeds must be drawn by hand, which is a terrible job, as I know to my cost; and necessary, because all parts of the plant being so close to the ground the weeds are more smothering and harmful.

The standard stocks were a sad sight indeed, a very large proportion having been killed by the severity of the winter. Old and young had suffered alike, and even some of those which had grown out had shrunk and died afterwards. There can be little doubt (and it is a fact that amateurs should bear in mind) that in November, 1892, standard Roses of all sorts will be scarce indeed, and good strong ones rarer still.

Teas were being budded on the standards, and the method pursued did not differ from that generally in use among amateurs, except that Mr. Cant surprised me by saying they did not unfasten the ties of raffia at any time, even on the standards, but left them to decay when they would. I think amateurs, who have more time to potter over individual plants, will find it better to remove the ties from their standards at the end of a month; on dwarfs, contact with the damp earth causes the raffia to rot off just about the time when it ought to be loosed, but on standards I think the shoot will often be indented and the flow of sap checked if the tie remains, and if it be removed I fancy the inserted Tea buds will ripen more, and be in a better condition to withstand the winter frosts. Nevertheless, I feel very strongly that in venturing this opinion I am "teaching my grandmother" with a vengeance. One other item in budding we learnt here—that the bud nearest the bloom, and generally of a more pointed shape than those lower down, is not fit for use; it commonly produces a flower bud at once on a very short stem, and even if it does not then die outright a satisfactory head seldom results. I recognised the description of the result at once, as having several times occurred with me, but did not before know the cause.

Mr. Cant thinks that bad growers, both among H.P.'s and Teas, make stronger growth and better heads as standards than as dwarfs. We were to note as instances *Princess of Wales* (T.) and *Germaine Caillot* (H.P.). We did not compare, I think, the former variety, but we know that Teas do better as standards if they can be kept alive



through the winter. In comparing the standard and dwarf examples of Germaine Caillot, I personally imagined that the difference was more in appearance than in reality; but we did not make any measurements, and no doubt Mr. Cant was right. Still, Germaine Caillot has certainly, I should think, a Tea cross in its constitution. I wish I had asked to compare standard and dwarf specimens of Madame Ducher (H.P.), for instance.

The large numbers of Roses of certain sorts grown to order for America were rather a matter of wonder to us; but I fancy they do not make budding out of doors answer over there, and I suppose the plants were principally meant for pots under glass. Our transatlantic cousins are credited in general with liking "anything big;" but I saw Boule de Neige reserved for them as well as Ulrich Brunner.

There were very few noteworthy blooms to be seen worthy of mention, which may seem odd, but of course it was just the slack season, and we came perhaps with eyes and tastes which had grown rather hypercritical during the show season. Moreover, I should have mentioned previously that all available blooms, here and at Mr. F. Cant's, had been cut the day before for a large display at a Colechester bazaar.

Buttonhole Teas, which gratefully respond to even a couple of decently fine days, were perhaps looking best. Among these I pointed out to my friend an unusually fine strain of Madame Faleot, which seems to me to be decidedly larger and fuller than the well known variety. Whether it will prove to be distinct or nothing more than an improved strain is now being tested; but the smallest sport for the better is worthy of propagation, and a good Rose slightly improved may be really more valuable than an absolutely distinct sport.

In taking leave of our kind friends I registered a mental determination to make my visit earlier next year, and a general hope was expressed that next season would at least be an improvement upon that of 1891.—W. R. RAILLEN.

### A DAY AT THE LAKES.

NOT much to be seen of the Lakes in a day, many of your readers will say, but if one only gets a route arranged, and is in the right frame of mind, he may see not only a great deal of the scenery, but the associations with which this delightful country abounds will linger in his mind for many long days. So one day last week I left Liverpool by the early train and reached Windermere shortly before eleven. As the conveyance took me from the station to the boat beautiful glimpses of scenery opened out here and there. The houses, built of stone, the greater portion showing no signs of mortar in the building, seem to be thoroughly in harmony with the surroundings.

Proceeding up the Lake to Ambleside, few could fail to be impressed by the magnificent view opened out before them. The day was not of the brightest, but what of that? The summits of many of the hills in the distance were clouded in mist, whilst below the effects the clouds produce must be seen to be believed. Many artists give us canvas representations of these cloud effects which in some instances are looked upon as exaggerations, but seeing the deep purples, golds, and greys made me feel that I for one must have been mistaken many times. The journey up the Lake being accomplished, I joined the Grasmere coach at Waterhead, and it is this delightful drive that is perhaps the most enjoyable feature of the day. We pass along the road skirting the Lake, and at every turn new views open out. At one moment we are under avenues of splendid trees, at the next we have views of the distant mountains, many clothed to the summit with Pines, Larches, &c., while small streams of water, like silver streaks, flowing down help to swell the beautiful blue waters at their feet.

We pass Wordsworth's seat, and the house in which Hartley Coleridge lived. There are old-fashioned cottages, quite in keeping with the rusticity of the place, over which are growing the Virginian Creeper and purple Clematis side by side, the former just beginning to put on its crimson tint, and forming a pleasing combination with the deep purple of the Clematis. Here in a profusion to be found in few other places is *Tropæolum speciosum*, growing over the fronts of the houses, but it is not so fine as I have seen it in former years. The gardens, too, how I wished time would have permitted me to make an examination of their contents. Lilies in many varieties were expanded and expanding, and seemingly quite at home; herbaceous Phloxes, with flowers of the most delightful hues; Carnations and old-fashioned Roses adding their fragrance, and many other flowers which could not all be noticed as the coach whirled past, were to be seen in these gardens, planted without any orthodox system, and growing and flowering in the greatest luxuriance. Lovely hardy Ferns, amongst them the Royal Fern and many other kinds, are here to be met with. It is little wonder that Wordsworth has left us so many delightful reminiscences of his beautiful country. There is no need to ask the way, as we enter the old-fashioned church gates at Grasmere to look on the resting place of the poet, for the grass is already trodden by the feet of numberless admirers from all parts of the world. At

one corner lie Wordsworth and his relations, whilst a few yards distant is the grave of Hartley Coleridge.

On the return journey we pass the residences of De Quincey, Harriet Martineau, the late Dr. Arnold, and others. In no way can the scenery be seen to such advantage as from the coach. With railways would in time come works of various kinds, the smoke and gases of which would destroy much of the vegetation. We have in the railway journey glimpses of all this, where for miles may be seen trees dead or leafless. Is it benefit to their fellow creatures that is the one consideration of those who would deface such a charming retreat? I am afraid not. Is it not rather as Wordsworth has so beautifully put it:—

"The world is too much with us; late and soon,  
Getting and spending we lay waste our powers,  
Little we see in Nature that is ours;  
We have given our hearts away—a sordid boon?"

—R. P. R.

### NOTES AT READING.

DISHEARTENED and dispirited flower gardeners may be forgiven if they turn somewhat impatiently from the gloomy pictures, real and descriptive, of the effects of the season, and seek to find relief amongst indoor plants. The beauty of the bedders has been seriously marred in many places, and annuals are greatly lacking in colour, while notwithstanding care in tying, herbaceous plants have suffered from the heavy gales. The absence of warmth and light has of course not been without a certain influence on plants under glass, but they at least have only suffered in a negative sense from wind and rain, and greenhouses and conservatories have had more than their usual share of patronage from the frequency with which the elements have rendered the flower garden untenable. The choicer florists' flowers in their improved forms are of great usefulness, and it is interesting to note, when opportunities arise for observing progress at the respective fountain heads, that the work of improvement still goes on. Messrs. Sutton & Sons of Reading hold an honoured place in the ranks of those who have enriched our store of valuable flowers, and their nurseries in London Road, Reading, which are a few minutes' walk from the great seed warehouses, are invariably full of interest to those for whom flower fertilisation has special fascinations.

The large flowers and rich colouring of the ennobled Gloxinias now ready to any grower's hand show forcibly what immense strides have been made with this particular flower. Even a dozen or score of plants are capable of producing a most bright and cheerful effect in a greenhouse or conservatory, but at Reading there are between 3000 and 4000 of them, a truly wondrous display. There are many hundreds of plants that were raised from seed sown in February this year, dwarf, well clothed in healthy foliage which curls down and hides the pots (5-inch) in which they are growing, and bearing several large flowers. The colours are very beautiful and diversified. This is an excellent strain admirably grown. One variety named Her Majesty is of exceptional beauty. It is a pure white, with large substantial flowers on very short sturdy stalks. It has the true crassifolia habit, and when sent out should speedily become popular. Many persons fail to have Gloxinias in good condition, amateurs frequently erring by saturating the foliage daily. This is a serious mistake. They like a cool shaded spot and plenty of water at the roots and a genial atmosphere during growth and flowering, but from the seedling stage no water should be allowed to fall upon the leaves.

Begonias provide another strikingly beautiful display. Two or three housefuls of plants bear brilliant testimony to the merits of the "Reading Beauty" strain. The great majority of the plants now in bloom were sown in February of the present year, and for some time they have been flowering in rich profusion. They are remarkably dwarf and compact in habit, with the flowers thrown well up above the foliage on substantial stems. The day of the Tuberous Begonias with flowers half hidden amongst straggling foliage is past. The type is hopelessly out of date. The newer forms have not lost in beauty of colouring or size of flower by the change in character of growth. We now have blooms of the largest size standing boldly up clear of the leaves, and the rich effects which Begonias are capable of producing are more fully realised than they could ever have been by the old type of plant. A pure white, a deep crimson, and an orange-scarlet were particularly noticeable, and the rose and pink shades, which are so popular and pleasing, are numerous. The plants are in 5-inch pots. There are, too, some thousands growing out of doors, and it is worthy of note that the rain has by no means washed all their beauty out of them; on the contrary, the flowers have stood it remarkably well.

Cyclamens sown in November last are the picture of robust health and vigour. They are in 6-inch pots, the surface of which is almost hidden by the abundant leafage, and they are unmistakeably handsome even while flowerless, for the marbled foliage is distinctly ornamental. Differing from Gloxinias, these plants love moisture over the leaves, and it is practically certain that the majority of the failures which occur with them are attributable to too dry and arid surroundings. There are between 2000 and 3000 plants, all of the same sturdy healthy type, and all bristling with flower buds. The houses in which they grow are low, and the roof is only sloped sufficiently to allow of rain running freely down; this, combined with the high stages on which the plants rest, bring the latter close to the glass, and no doubt accounts for their



dwarf and sturdy habit. Primulas, Calceolarias, and Cinerarias are flourishing in a young state in pits and frames. There is a splendid batch of the latter in 6-inch pots that were sown in June.

One of the most attractive houses in the nursery at the present time is that filled with Achimenes, which are grown for the tubers. The varieties are not numerous, but they are strikingly select. One of the most beautiful as grown there is *A. splendens*, five plants being flowering in a 5-inch pot. These make charming little examples a foot high and nearly as much through, loaded with their vivid scarlet flowers. More pleasing ornaments for an amateurs' greenhouse it would be impossible to imagine. *A. coccinea* is another beautiful little variety, with brilliant scarlet flowers a trifle smaller than those of *splendens*, and even more freely produced. *Margaretta*, white, with much larger flowers; *Rosy Queen*, a variety with beautiful rose-coloured blooms sent out last year, dwarf, free, and exceptionally fine; *Lady Lyttleton*, rosy carmine, with fringed Primula-like flowers; *Ambrose Verschaffelt*, white, splashed and veined with purple; *Carl Wolfarth*, purplish violet; and *A. longiflora major*, bluish mauve, with lovely, long-tubed flowers, are all eminently worthy of culture.

*Gesnera zebrina discolor*, of which a batch is grown, is a distinct and handsome plant. It has large glossy leaves, green when young, but deepening to purple with age, and tubular flowers of which the exterior is bright scarlet and the interior yellow dotted with brown. Both leaves and flowers are effective. The plant requires substantially the same treatment as *Gloxinias*.

Out of doors, one of the principal features of interest, apart from the *Begonias* already mentioned, which are this year's seedlings, is a large quarter of Stocks and Asters grown for trial. The former are now past their best, but the latter are coming into splendid bloom, and will be worthy of inspection by any visitor. Nearly all of both Asters and Stocks were sown in the open ground where they are flowering. Seedling Carnations have been wonderfully full of bloom. A large bed of *Zinnias*, dwarf and freely flowered, is very attractive, and *Portulacas* have only wanted a little sun to show their wonderful colours in perfection. It is somewhat strange that these brilliant dwarf annuals are not more generally grown. As something a little out of the common may be mentioned a number of Egg Plants fruiting freely in the open border. The varieties are white and purple, the former closely resembling the eggs of poultry. They were put out about the end of May. In another part of the establishment, too, were shown what is not often seen, *Freesia refracta alba* flowering at less than six months old from seed. The latter was sown on the 13th of March this year, the plants grown in the open air until they showed flower, and then placed in a cold pit. This is interesting as showing that bulbs have not to be absolutely depended on when quick flowering is wanted. *Fuchsias* seven months old from seed are also blooming freely.

Perhaps in such a season as the present it may be worth while to mention a really fine crop of Tomatoes in the open air. There is a large breadth of about 1500 plants in rows 3 feet apart, and a foot from each other in the rows. They are exceptionally healthy, not showing a trace of disease, and are bearing abundance of fruit. The ripening, of course, is somewhat backward, but the foliage has been well thinned to admit as much sun as possible, and if a warm month should come there will be nothing whatever to complain of. The pick of the varieties are *Perfection*, *Earliest of All*, *Abundance*, *Golden Perfection*, *Maincrop*, *Golden Nugget*, and *Cluster*, all of which are cropping splendidly. The plants are growing in unmanured land, but have recently been assisted by a good mulching.—NONDESCRIPT.

### FRUIT GROWING IN THE SOUTH OF IRELAND.

At the Cork School of Art a Conference on fruit growing and market gardening, considered as a profitable industry for the South of Ireland, was held last week under the presidency of the Mayor. There were also present Sir George Colthurst, Captain L. Beamish, Dr. Colthurst, Colonel Hall, the Dean of Ross, Sir George Wycherley, Messrs. T. F. Rivers (Chairman British Fruit Growers' Association), Bullock Hall, W. L. Cole (Dublin), James Byrne (Chairman County Cork Agricultural Society), and others.

The Mayor having opened the Conference,

Mr. Bullock Hall said he had made the land question a study in different parts of Europe, having travelled through Belgium, Germany, France, and Italy, and he was greatly struck at the great variety of crops that were grown in the small narrow strips of land in those places, especially on the south side of Paris. The English farmer rushing through these lands in a train generally got hold of the idea that they were worse farmed than the average farms would be in England, because he did not understand the principle on which they were worked. Farmers holding crops of 10 acres or under made a mistake if they farmed on the same principle as they would work a large farm. They should instead of growing cereal crops turn their attention to the cultivation of fruit on small holdings, and with such a market at hand as they had in Cork the change would pay well. With a view to encouraging this industry in England they had approached the Great Eastern Railway Company and obtained from them an agreement to carry 1 cwt. of the produce to London for 9d. and deliver it within an area of four miles. He had no doubt that would excite their railway companies of the south of Ireland. He had received before leaving home the prospectus of a society called the Cork and Waterford Farm and Garden Supply Society. That was the very society which he should like to see started, and he hoped the railways will be induced to give

them the same facilities as the English railways gave the small growers.

Mr. T. F. Rivers then read a valuable paper on the subject of the Conference, in the course of which he said the question of a continuous and abundant supply of fruit to the British markets grown on British soil was a matter of serious consideration, and public attention had rightly been aroused to the fact that a great industry had been in danger of passing away from those who ought to be the first to reap the profit arising from that industry—the fruit growers of Great Britain and Ireland. The capital required for this industry was very small compared with that required for business or manufactures, and the value of the produce increases year by year by the sole action of natural forces. Fruit shows had lately been held in England, at which fruit from Ireland had been shown in excellent condition, which proved that British fruit is second to none in quality.

In Ireland the orchards were too old and too much dependance was placed on the supply of fruit on these old trees. The idea that a fruit tree will last and produce fruit during three or four generations of men was entirely erroneous, the life productive power of an orchard at its best being not more than thirty years. In his opinion, the modern orchard should be planted on a totally different system. Instead of a standard 20 feet apart, giving 108 trees to the acre, it is possible to plant trees of Apples, Pears, and Plums at 12 by 12, and to keep them at the height of 9 to 10 feet high. This system can be most efficiently carried out by planting trees of from two to three years old, with fibrous roots and healthy and vigorous stems, allowing a clear stem of 3 feet before branching, and removing all buds and shoots below this height. This clear stem is necessary for the free circulation of air, and also for the growth of bush fruit between the rows of the taller trees. He had hitherto been very successful in fruit growing, which was due to the way he had studied the soil.

The Apple occupied the highest position as an industrial fruit, and was an article of diet of the greatest importance in Great Britain, owing to the very great importation of this fruit from America and Tasmania. The British grower should endeavour to give sorts that will be available before the foreign supply reaches our shores, as there is less competition in the summer months than in the winter. The culinary Apples now recommended for England are—Lord Grosvenor, Keswick Codlin, Duchess of Oldenburg. Dessert Apples—Irish Peach, Quarrenden. Autumn culinary—Ecklinville, Stirling Castle, Warner's King. Dessert—Worcester Pearmain, Kerry Pippin, &c. Winter—Hawthornden, Lord Derby, &c. Spring—Bramley's Seedling, Lane's Prince Albert, Braddick's Nonpareil, Scarlet Nonpareil, &c.

As an industrial fruit the Plum is next in importance to the Apple, and requires the same conditions of soil and position, although the fruit orchards of Germany and France supply a large proportion of the fruit sent to the British markets. The earliest sort was the Early Rivers, which in soils containing a large percentage of lime is a certain and abundant bearer. He had never known it to fail owing to the time the tree is allowed to recover strength between the gathering of the fruit and the bearing of the succeeding year being nearly eight months. With reference to French Pears, they brought such a good price that they should be grown wherever the climate suited. Grafted on the Quince stock the Pear will bear fruit in three years, and will bear fruit on this stock for fifteen years. They can be grown with great facility in many parts of the south of Ireland, and there was no reason why Pear-growing should not become an important industry (applause).

Mr. Hartland then read a paper, in which he stated that they possessed a rich store of true Irish Apples, quite unequalled in their respective seasons. He named a few in their order of ripening:—the Irish Eve, the Irish Peach, the Kerry Pippin, the Donoughmore, the Blackwater Pearmain, the Molly Gibbons, or Irish Russet, the Ross Nonpareil, the Scarlet Cluster, and the grand Belfast Apple, the Ecklinville, the last two being bakers, and the remainder table fruit. Our soil and climate offered early and special advantages, and the greater portion of first fruits found a ready and profitable sale in Dublin, while in Cork, where twenty years ago a basket of choice fruit had to be hawked through the city, and was often returned unsold, several firms now bought by the ton. As to employment, children were nimble bush fruit gatherers, and anyone who had visited the Continent at summer time must have been delighted to see whole families thus healthily and profitably employed. Some might have seen this in our own country fifty years ago, when the autumn drive along the Blackwater was one not soon forgotten. That valley was thickly covered with fruits.

With regard to the question as to how they proposed starting and carrying on this work, anyone who had observed our market gardeners—who had made Cork vegetables famous—should see that these men were precisely the class most suitable for fruit growers. The day could not be far distant when fruit would form a part of every meal as it did in America. The Government, he was sure, would assist with small loans repayable during six years, and proper security could be given. With good instructors very few lessons would suffice, and that fine industry might be at once established—possibly in a small way at first, but the growth would be rapid and a good slice of those millions sent to America and to the Continent would find plenty of empty pockets at home. Mr. Hartland then quoted from several well-known pomologists as to the possibilities of the soil of the South of Ireland as regards fruit growing.

Sir George Colthurst, in proposing a vote of thanks to Mr. Hall and the gentlemen who had read papers, expressed it as his opinion that the reason for the disappearance of the orchards which used to line the



Blackwater was found in the fact that the trees were too old, and were never removed. Mr. Hartland had said that the Government should help them in that matter, but he (Sir George Colthurst) would like to know what the Government of Australia did to foster the industry in that country. They were too fond of ascribing everything that went wrong to the Government of their country. However, he thought the Government could and should do something in the way of instruction (hear, hear). If they could get school teachers thoroughly "ground" in the culture and growing of vegetables and in the practice of good pruning and good cultivation then they might hope in the near future to do some real good in the matter.

The Dean of Ross seconded the proposition, and hoped they were inaugurating a new era in the fruit growing industry of their country.

The proposition was carried unanimously.

On the motion of Mr. B. Hall, "The County of Cork Fruit Growing Association" was formed in connection with the County Cork Agricultural Society. Mr. Hall promised to give a donation of £10 and an annual subscription of £5.

A vote of thanks having been passed to the Mayor, the Conference terminated.—(*Cork Examiner*.)



**EVENTS OF THE WEEK.**—The Royal Horticultural Society's Fruit, Floral, and Orchid Committees will be held in the Drill Hall, James Street, Victoria Street, at twelve noon, on Tuesday, September 22nd, and at the afternoon meeting papers by Mr. R. Lindsay of Edinburgh and by Mr. Lewis Castle will be read concerning Insect-eating Plants. Upon Friday, September 18th, Messrs. Protheroe & Morris will hold an important sale of Orchids at their Cheapside Rooms. This will comprise an importation of the true old autumn-flowering *Cattleya labiata* from Messrs. F. Sander & Co. It is the species upon which Dr. Lindley founded the genus *Cattleya*, the plant having been found by Mr. Swainson, and introduced in 1818. The present plants are said to have been brought from the same district over which Mr. Swainson travelled.

— **BRILLIANT SUMMER WEATHER** was experienced over England on several days last week. In London the thermometer in the shade rose to 82° on Saturday, or 16° above its average maximum height for September, and 1° higher than at any time during the previous three months, and on Sunday it rose to 83°. Although a cool wet summer is more often than not followed by a fine warm September, it is seldom that the thermometer at this time of year rises much above 80°, but it has done so on four successive days in London, a circumstance that has not occurred for twenty years. There have been eight Septembers in the course of the past twenty years in which the thermometer in London has exceeded 80°, but only four in which it has reached a higher level than it did on September 10th and 12th. During the whole of the twenty years, 1871 to 1890, there was only one instance in which the extreme warmth of the summer months was exceeded by that of September. This was in the year 1880, when the thermometer on the 4th September rose to 87°, or 6° higher than at any time in June, July, or August. Heavy showers fell on Monday and Tuesday this week, and there has been a great fall in temperature, the minimum yesterday (Wednesday) morning being 53°.

— **A NEW TEA ROSE.**—An attractive new Tea, named *Corinna*, was shown by Messrs. W. Paul & Son, Waltham Cross, at the recent Aquarium Show. It is a wonderfully free bloomer and a good grower. The colour is salmon. If good in the bud state it will prove a valuable variety for cutting, as the tint is popular and pleasing.

— **AN INCREASE OF PREMISES** has again been found necessary by Messrs. Carter & Co., and they have secured the huge building lately occupied by Messrs. Day & Martin in High Holborn, which will add largely to the conveniences at their disposal for coping with their large and growing trade.

— **FRUIT IN KENT.**—A good deal of damage was caused to the fruit crop in Kent by the very boisterous and wet weather recently, a large quantity of Apples, Pears, and Plums having been blown from the trees, and in consequence coming on the market in such quantities as to keep prices on a low level. In the fruit-growing centres of the county most remarkable sights are presented by the Damson and Pear

trees, which, generally speaking, are loaded to almost a phenomenal extent, while Plums are also very plentiful. Apples seem fairly plentiful, but they are "patchy," some parts having abundance, and others just the reverse.

— **THE POTATO DISEASE.**—Mr. Robert Fenn writes:—"My Potato haulms (dressed as described on page 193), where they are not ripening off a proper yellow, still maintain a remarkable greenness amidst the blackness of desolation around. Most prominent are the Woodstock Kidney, the Sir Charles Douglas, and the second plantings of Early Border and Ringleader. I do not propose to dig any of my trial rows till every green leaf has ripened, thus giving the tubers a test to appear at their best or worst."

— **GARDENING APPOINTMENTS.**—Mr. A. Abrahams, for the last twelve years gardener to T. H. Wilson, Esq., Hazelholt Park, has been appointed gardener to Lord Clifford at Ugbrook Park, Chudleigh, Devonshire. Mr. Robert Raisbeck, general foreman at Witley Court, has been appointed gardener to Lord Heytesbury, Heytesbury, Wilts. Mr. J. Brand, who has been for thirteen years gardener to the late Mrs. Gardiner, has been engaged to continue his services at Essendene, Caterham, Surrey, by the present occupier, C. Warren, Esq.

— **THE BEDDINGTON, CARSHALTON, AND WALLINGTON HORTICULTURAL SOCIETY** have decided to hold an Exhibition of fruit and Chrysanthemums, also a Conference on Apples and Pears for the district on similar lines as adopted by the Royal Horticultural Society at Chiswick in 1888. A sub-committee has been appointed to draw up the schedule. The date of the Show is not definitely fixed, but it is expected to be towards the end of October, in the Public Hall, Carshalton. Mr. G. W. Cummins, The Grange Gardens, Carshalton, is the Honorary Secretary.

— **FLOWER SHOW FUND AT NEWCASTLE.**—It is very gratifying to learn that the Newcastle-on-Tyne Horticultural Society has been speedily relieved of the financial troubles brought upon it by the storm which compelled the Committee to abandon the autumn Exhibition. At a recent meeting it was announced that, after all the Society's liabilities had been discharged, there would remain a balance of some £200 to go on with. It will not therefore be broken up. We are glad that the appeal made on its behalf has been so successful. The suggestion that a substantial sum should be subscribed, and kept in hand as a sort of insurance fund, is a good one, and deserves to be acted upon.

— **THE GALA AT GATESHEAD.**—A northern daily asks what is to be done for the Gateshead Flower Show Society. They have been quite as unfortunate as the Newcastle Society, for their tents were blown away by the gale; and, although some portion of the exhibits were shown, it is understood that the financial results of the venture were most discouraging. A hope is expressed that the Gateshead Society will receive the generous consideration of the public, and that those who intended to visit the Show, but did not on account of the weather, will forward to the Secretary the sum which they intended to pay at the gates of Saltwell Park.

— **WEATHER AT LIVERPOOL.**—Very agreeable is the change in the weather since I last wrote. Instead of storm we are having a calm, continuous sunshine prevails, and altogether we are having the most delightful weather. Short though the time has been since the welcome change we can see the beneficial results on the fruit trees, and Apples are already beginning to assume a rosy tint, whilst Pears are swelling fast, and Plums ripening. Harvest operations are in full swing, and bad as the outlook seemed such a very short time ago it is brighter now. The thermometer has registered 88°, 90°, and 86° on three of the days in last week.—R. P. R.

— **HARDINESS OF CAMPANULA PYRAMIDALIS.**—There seems to be a doubt prevailing as to the hardiness of this species of Bellflower, but with us it is perfectly hardy. I have repeatedly kept it through the winter in the open borders, and for several years past we have had one or more self-sown plants in flower that have wintered with their roots well established in rough stone walls. If a plant will live through such a winter as that of 1890 and 1891 unprotected, it must be considered perfectly hardy, and although we had none of the *Campanula pyramidalis* in the borders, a strong wall plant came out of the ordeal quite uninjured, and is flowering well at the present time. Although quite hardy, I yet prefer the species for pot culture as it is most effective in conservatories while those in the open are nearly always spoilt in appearance by either strong sunshine, wind, or rain.—SOMERSET.



— CRYSTAL PALACE SHOW.—In your issue of 10th inst. I notice you state that the first prize at the Crystal Palace Show for the best dish of Carter's Blenheim Orange Tomato was won by Mr. J. Slater, Lower Sydenham. This is erroneous, as I was awarded first in that class. Kindly correct in your next edition.—JAMES FRY, *Haydon Hall, Eastcote*.

— A NEW TROPEOLUM.—Messrs. Clibran of Altrincham have evidently secured a decided acquisition, judging from the specimen now before me, and which differs from anything of the kind I have hitherto seen. At first it looks like a bunch of fluffy gamboge yellow Crocuses, but the colour is much more brilliant and peculiarly telling. The height is about 4 inches, and never exceeds 6. One of the sights of the flower garden next year may be a long effective line, or a central bed of a colour never seen in the flower garden before. Then it must be remembered that this will be one of the easiest grown and raised.—W. J. MURPHY, *Clonmel*.

— THE FLOWER ARTIST IN JAPAN is described by Mr. Condor in a volume he has just issued at Tokyo as avoiding a grouping of colours and transplanting his flower in a vessel specially designed to receive it. A solitary spray of flowers in a slender vase, a water plant in a graceful bowl, a creeper climbing the handles of a basket-shaped receptacle, an Orchid growing in a joint of Bamboo, or a cluster of Wistaria depending from some quaint hanging vessel—these are some of the forms in which the Japanese flower artist loves to indulge. The arrangement of flowers, Mr. Condor says, has always been regarded in Japan as an occupation befitting learned men and literati. "Ladies of the aristocracy have practised it, as they have other arts, but it is by no means considered as an effeminate accomplishment. Priests, philosophers, and men of rank who have retired from public life have been its most enthusiastic followers."

— THE HEADING OF CABBAGES.—It has recently been stated, as the result of an experiment in one of the United States stations, that if Cabbages are slightly tilted over with the plough in the fall, it produces a tendency to make them have larger heads. We now learn, as an experiment by Prof. L. H. Bailey of Cornell, that if the Cabbages are planted shallow and earthed up, the per-centage of large and heavy heads is much greater. As a matter of physiological principles these two experiments in different directions both accord. It goes to show that whatever favours the nutritive power is against their disposition to produce hard heads. In Mr. Bailey's experiment the plants got the benefit of abundant moisture and nutrition, when headed up. When not headed, or when not earthed up, or slightly tilted, there is an obstruction to complete nutrition. Although these experiments seem of a somewhat unimportant character, they afford very interesting lessons to the study of plant life, from a practical point of view. We think the experiments ought to be repeated in view of these valuable and suggestive lessons.—(*Meehan's Monthly for September*.)

— BOURNEMOUTH AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The third annual excursion of the Association took place on Wednesday, September 9th, to Longford Castle, near Salisbury, the seat of the Right Hon. the Earl of Radnor. The party, which included Dr. Hitchcock (President of the Association), and Councillor J. A. Tyler, also Mr. J. J. Swaffield, Mr. G. Watts, jun., Mr. W. Watts, and Mr. J. Phillips, nurserymen, journeyed by rail to Alderbury Junction. A pleasant walk of about a mile brought them to the entrance to the park, where they were heartily welcomed by Mr. Ward, the head gardener, who, with his two sons, and Mr. Warden, gardener at Clarendon Park, conducted the party over the extensive gardens and pleasure grounds. The old castle, portions of which date from the sixteenth century, was much admired, and the fine bedding display on the terrace gardens received well merited praise. After viewing the pleasure grounds, which were in splendid condition, the party were next shown the fruit and kitchen garden and glass departments, and as Mr. Ward was well known to be a successful exhibitor of fruit, &c., each department was critically examined and favourably commented upon. The party next proceeded to the cricket ground in the park. Here, in a tent kindly lent by Lord Radnor, a capital luncheon was served, after which hearty votes of thanks were accorded to Lord Radnor for his kindness in granting permission to the Association to visit his beautiful park and gardens, also to Mr. Ward for the manner in which he had received the members. The afternoon was spent in cricket and quoits, and after partaking of tea, the return journey was commenced about 6.30, Bournemouth being reached after a most enjoyable day about nine o'clock.—J. B. S.

— RAINFALL DURING AUGUST IN HAMPSHIRE.—The month of August will long be remembered for the excessive quantity of rain which fell in this part of the county. I do not remember any month when the quantity, 6.69 inches, was exceeded during the last twelve years; but twelve dry days are recorded for the whole month, the last nine days rain fell on each day, in all a total of 3.21 being recorded. In spite of the wet state of August we are still 3.17 inches below the total amount recorded for the first eight months of last year, which was 22.1 inches, while this year so far but 18.85 inches has been registered. Up to the end of August we have had 156 days upon which no rain fell as compared with 151 during the same period of 1890. During February of the present year not a single drop of rain is registered, and but on three days did rain fall during the same month of 1890, which upsets the old saying of "February fill dyke" very considerably. Swanmore Park being situated on a hill 395 feet above sea level accounts for so many dry days, upon many of which showers fell in some cases heavily in the valleys around.—E. MOLYNEUX.

— FRUIT CONGRESS AT MANCHESTER.—Mr. Bruce Findlay sends us the following letter he received from the Right Honourable W. E. Gladstone:—"I will not withhold the expression of my good wishes for the fortune and effect of the meeting you are to hold in October, but it will, as I hope, have the support of those who are much better entitled to speak with authority. For many years, through the activity of the Press, the humble advice given by me locally to our cottagers and farmers has become an exposition to the country at large which I was hardly entitled to deliver, and for which I have naturally enough been made the subject of witty animadversion. I have, however, a very strong conviction that the work which you have in hand is a great and beneficial work—that there is a great commercial void which ought to be filled by British skill and labour, and that the extension of what we may term the small culture, in all its branches, will produce very considerable moral and social as well as economical benefits." The Congress will be held on October 21st and 22nd. The Earl of Derby is the President, and the following subjects will be introduced for discussion:—"The Fruit Growing Movement: Present Day Features and Prospects," by Mr. Baillie of Chester; "The Condition, Preparation and After-Treatment of the Soil for Fruit Culture," by Mr. Cheal of Crawley, Sussex; "Fruit Growing for Profit," by Mr. S. T. Wright of Hereford; "The Raising, Budding, Grafting, and Pruning of Apple Trees for Orchard and Estate Planting," by Mr. Crump of Madresfield; "Orchard House Culture," by Mr. T. F. Rivers of Sawbridgeworth; "The Importance of Early Planting and Shelter in Fruit Culture," by Mr. Edward Luckhurst of Romford.

— FLORICULTURE IN AMERICA.—The United States Census Bulletin just issued notes that floriculture in the United States has come to be simply the growing of a few things for cut flowers. It has found that there are 4659 greenhouse establishments in the United States, and that the total number of plants raised is about 125,000,000; of these 49,000,000 were Roses alone, and the rest were made up of plants in the following order:—Violets, Chrysanthemums, Lilies, Hyacinths, Smilax, Bouvardia, Heliotropes, Pansies, Tulips. These together make 90 per cent. of the whole of the plants raised. The other 10 per cent. were made up of Orchids, Tuberoses, Mignonette, Primroses, Camellias, Daffodils, and a few others. Three hundred and twelve of these establishments are owned and managed by women. The value of the greenhouses, including heating apparatus, is placed at 38,000,000 dols. For outdoor gardening the demand has been in a great measure confined to Geraniums, Coleus, Roses, Pansies, Verbenas, Heliotropes, and Carnations. Among all the large classes of florists' flowers the Fuchsia is the only one noted as being grown in sufficient numbers to be worth naming. When it comes to a matter of profit the report says the Roses have been the most profitable, the Carnations next. Some few florists, however, speak of the Carnation as being more profitable than Roses.—T. B. M.

— NOTES AT CLEVELEY, ALLERTON.—Those beautiful climbers, Lapagerias, are now in full bloom at Cleveley, and are worth going a long journey to see. So often do we see them under conditions quite the opposite, that I cannot refrain from dwelling for a short time on their merits and the culture they receive to bring them to such perfection, with the hope that some little information may be gleaned by the readers of the Journal, who are not quite so fortunate as Mr. Cromwell in the cultivation of these plants. The roof of a house some 30 feet long is now covered with thousands of flowers, some of the racemes being from 2 to 3 feet in length, the red and white varieties



intermingling with each other and presenting a charming effect. For decorative work they are useful for festooning if shoots of some length are cut, and they are equally so used individually; in fact may be employed in many ways to suit various tastes. There are two varieties of the red. One, *L. rosea superba*, is rightly named. The colour is intense rose, and the petals finely reflexed. The other is a much longer flower, of good substance, heavily spotted with white, but not so much reflexed as the former. It is very showy, and a striking contrast to the brighter form, the chaste alba completing an excellent trio. As to their cultivation, Mr. Cromwell informed me that they were planted about



FIG. 44.—MR. J. W. MACHATTIE, NEWBATTLE.

six years ago. In February last they had quite exhausted the compost, and the roots had penetrated through the joints of the brick enclosure into the surrounding earth. Extension of root-room was found to be necessary, so the roots were carefully traced and laid in a good compost consisting of rough hand-picked loam, peat, broken bricks, charcoal, and a liberal addition of coarse Demerara sand. They are now feeling the benefit of this extension, as may be seen by the substance of the flowers and purity in the white variety. Copious supplies of soot water is what Mr. Cromwell finds the best of all fertilisers for the *Lapageria*.

— THE CORRIDOR in the same garden always contains some noteworthy plants in flower, but at the present time it is exceptionally gay, being filled the whole length of 120 feet with Tuberous Begonias. Almost all shades of colour are represented, some of the flowers being 6 inches across, the strains being Laing's and Sutton's. Baskets of *Achimenes* might be oftener seen. Here they are the whole length of the corridor, baskets 3 feet in diameter, and one mass of bloom, while the back wall is aglow with *Bougainvillea* very bright in colour, Tea Roses in variety, charming plants of *Plumbago capensis* and *P. capensis alba*. Many other pleasing arrangements might be noticed in this well-kept garden, but for the present this must suffice.—R. P. R.

— SCENT-YIELDING PLANTS.—The plants cultivated in Italy and the south of France for the yield of essential oils have suffered so from the severity of the last winter as to considerably impair the market supplies. Oil of Bergamot is exceedingly scarce in Italy, and brings higher prices after every transaction. The principal plants cultivated in France for essential oils, which have been most damaged by last winter's frosts are Thyme, Rosemary, Lavender, and Pennyroyal, and the output of Geranium oil in Spain will this year be very small. The Peppermint crop in England has been winter-damaged, especially on the heavy damp soils and on the more exposed positions, so that some of the plants were taken up. Lavender, also, has suffered severely, especially the old plants, of which the frosts have apparently made short work, nearly all being killed. During the closing week of April the price of the oil advanced from about 35s. to 40s. per lb. The Camomile plants have also suffered. It is worth noting that the first consignment of Cassia pomade shipped from British India was recently received in London. It was only a sample shipment, but, if successful, it may be the precursor of large quantities, as the flowers (*Acacia Farnesiana*) are found growing wild in abundance. It is claimed for the Indian pomade that it is very considerably stronger than the strongest French.

## THE EDINBURGH INTERNATIONAL SHOW.

SEPTEMBER 9TH, 10TH, AND 11TH.

A GENERAL outline of this great Exhibition of garden produce was given last week with the names of the more successful competitors in the leading classes, but it is necessary now to refer to some of these in detail, and to indicate some features of the Show which had to be passed in a hurried telegraphic message. It is pleasant to be able to record the International Show of 1891 as an unqualified success. Upon the first day (Wednesday) about 10,000 visitors were admitted, on Thursday the takings were said to exceed £600, and on the last day the admissions were correspondingly numerous. Altogether, therefore, the Council of the Royal Caledonian Society, and all the officials concerned in the organisation of so gigantic a Show, have every reason to be pleased with the result of their efforts. Certainly the management, as regards all the preliminary matters, was eminently satisfactory; the exhibits were all in their places on Tuesday night, and at a comparatively early hour the market was cleared and everything was in readiness for the Judges to commence their duties the next morning. These important functionaries assembled at 6.30 A.M., and, with a few exceptions, the work was so well divided that the awards were completed in good time and the prize cards were on the exhibits very promptly. Scarcely a hitch occurred to interrupt the progress, and unstinted praise was accorded to all concerned. Unfortunately as much cannot be said for the success of the removal arrangements at the close of the Show, for an extraordinary scene of confusion occurred on Friday evening, and complaints respecting the loss of fruit were numerous. This matter will be referred to again more fully on another occasion, and for the present it is only necessary to add that the Committee was somewhat hampered by the fact that a market was held in the building on Thursday morning, and the whole space had to be cleared on Friday night in readiness for the large market on Saturday morning. The removal and replacement of some of the tables on Thursday, and the dust produced, damaged the fruit and flowers considerably. Apart from this the market is an excellent building for a show of this character, and full advantage was taken of it in every respect.

Mr. McIndoe may fairly claim the honour of being the champion exhibitor in the fruit classes, for in addition to the numerous prizes in the several classes, he was awarded the Turner Memorial silver cup, value £10, presented by the Trustees for the best collection of fruit in the Show, and we also understand that he has secured the ten-guinea silver cup presented by the Scottish Horticultural Society to the competitor in Classes 1, 2, 3, 4, 5, 6, 7, and 10 who was awarded the largest aggregate amount in prizes.

### COLLECTIONS OF FRUIT.

The principal class in this section was that for twelve dishes, to include two Pines, two dishes of Grapes, and two Melons, the prizes being £15, £10, and £5. Of the four competitors, Mr. J. McIndoe, gardener to Sir Joseph Pease, Bart., M.P., Hutton Hall, Guisborough,



FIG. 45.—MR. JAMES DAY, GALLOWAY HOUSE.

was the most successful, taking first place with the following grandly coloured Gros Maroc Grapes, Golden Champion Grapes, large in bunch and berry, very clean and bright; a Queen and a Smooth Cayenne Pine, well developed and ripened; excellent fruits of *Musa Cavendishi*, large ripe Brown Turkey Figs, fine Ribston Pippin Apples, Stanwick Eluige Nectarines of good colour, and Golden Eagle Peaches of remarkable size and colour, Exquisite and Hero of Lockinge Melons, and Souvenir du Congrès Pears, making up an even, well arranged, highly creditable collection. Mr. David Murray, gardener to the Marquis of Ailsa, Culzean Castle, Maybole, took the second place with handsome Alnwick Seedling and Muscat of Alexandria Grapes, the latter with rather small berries, but large clean bunches; a large bunch of Bananas, Pitmaston Orange Nectarines, Duchess of Oldenburg Apples, Williams' Bon



Chrétien Pears, Favourite Melon, Peaches, and Figs. Mr. J. Hunter, gardener to the Earl of Durham, Lambton Castle, Durham, was third, his best dishes being Calabrian Raisin and Gros Colman Grapes of good size, Magnum Bonum Plums, and Souvenir du Congrès Pears, but it was evident that Mr. Hunter had reserved his strength for the succeeding classes.

The second class also was for twelve dishes, to include three dishes of Grapes, two of Peaches, and one Melon, Pines and Bananas being excluded, the object of which was to admit other competitors. The same number of collections were staged—viz., four—and Mr. J. Hunter was a good first with superb Alicante, Gros Colman, and Barbarossa Grapes, large Lord Napier Nectarines, and Royal George Peaches, well



FIG. 46.—MR. T. LUNT, ARDGOWAN.

ripened Moorpark Apricots, and a fine Premier Melon. Mr. McKelvie, gardener to the Dowager Duchess of Roxburgh, Dunbar, secured the second place with admirable examples of Barbarossa, Muscat of Alexandria and Alicante Grapes, Bellegarde Peaches, and Humboldt Nectarines. Mr. P. W. Fairgrieve, gardener to the Dowager Duchess of Athole, Dunkeld, was third, showing Alicante and Madresfield Court Grapes, and Alexander Apples being conspicuous.

The third class was for a collection of twelve dishes, excluding Grapes and Pines, and Mr. Hunter followed up his previous success by taking premier honours again from three other competitors. His exhibit included praiseworthy samples of the undermentioned varieties: Albert Victor and Imperial Green Flesh Melons, Denbigh Plums, Goshawk Peaches, Lord Napier Nectarines, Moorpark Apricots, King of the Pippins Apples, Victoria Nectarines, Grégoire Bordillon and Souvenir du Congrès Pears, Worcester Pearmain Apples, and Alexandra Noblesse Peaches. Mr. McIndoe was a close second with fine fruits of Exquisite and Golden Eagle Peaches, Pitmaston Orange Nectarines, and Doyenné du Comice Pears. Mr. D. Melville, gardener to the Hon. G. G. Dalrymple, St. Boswells, took the third place with a good representative collection of useful fruits.

There were also four competitors with collections of twelve dishes of fruit grown in an orchard house (Grapes excluded), and Mr. McIndoe won the leading position with an excellent collection of Bismarek Apples, Humboldt and Spenceer Nectarines, Kirke's Plums, Princess of Wales and Exquisite Peaches (the last named of great size), Kirke's and Magnum Bonum Plums, Alexander Apples, Brown Turkey Figs, Souvenir du Congrès and Doyenné du Comice Pears, and Passiflora edulis. Mr. Hunter was second, Warner's King Apples, Goshawk Peaches, Moorpark Apricots, and Denbigh Plums being the most notable dishes; and Mr. D. Melville was third.

Classes 5 and 6 were for collections of hardy fruits, the former for eighteen dishes grown in the open air in Scotland, and the prizes included a handsome clock, valued £10 18s. as the first, with £5 and £3 as second and third. These brought five competitors, who staged extremely good specimens of fruit cultural skill in the North. Most unfortunately the Judges considered it necessary to disqualify one of the collections that would undoubtedly have won a prize. It was staged by Mr. Brown, Abereairney Gardens, Crieff, and included two dishes of Apples, one of Worcester Pearmain, and the other of Red Astrachan, which showed some little variation, and it was thought they were mixed and indistinct, and to that effect the card was marked and the collection shut out. The opinion of several who subsequently examined the Apples very carefully was that the varieties were true, and in another class a first prize was awarded for a collection of Apples, comprising a dish of Worcester Pearmain, showing exactly the same difference, but which was unquestioned. However, Mr. Fairgrieve was adjudged first honours, which he well deserved, for fine dishes of White Genoa Figs, Worcester Pearmain Apples, Morello Cherries, Magnum Bonum Plums, Williams' Bon Chrétien Pears, Violette Hâtive Nectarine, Peasgood's Non-such Apple, Governor Wood Cherries, Nectarine Plums, Pitmaston Duchess Pears, Eluge Nectarines, Brown Turkey Figs, Orange

Apricots, Early Silver Peaches, Fay's Prolific Red Currants, Early Alfred Peaches, Warrington Gooseberries and Apricots—a capital all-round collection, most creditable to Scotland. Mr. J. Day, gardener to C. J. Massey, Esq., Galloway House, had good examples of Williams' Bon Chrétien Pears, Hale's Early Peaches, Late Duke and Morello Cherries, and Castle Kennedy Figs. Mr. G. Goodfellow, gardener to E. C. S. Gray, Esq., Perth, was third with several fine dishes, Gooseberries being especially notable.

The last of the classes devoted to collections was that for eighteen dishes of hardy fruits grown in the open air in England, and the substantial first prize of £10 10s., offered by Messrs. Little & Ballantyne, brought three competitors, amongst whom Mr. T. H. Crasp, gardener to Lord Wimborne, Canford Manor, Wimborne, Dorset, easily succeeded in winning first honours, his fruits being well-grown specimens of the following:—Williams' Bon Chrétien and Doyenné Boussoch Pears (the latter richly coloured), excellent Ribston Pippin Apples, well-ripened Brown Turkey Figs, Worcester Pearmain Apples, Jefferson Plums, Morello Cherries, Sea Eagle Peaches (very fine), Lord Napier Nectarines, Green Gages, Red Astrachan Apples, Pond's Seedling Plums, Duchesse d'Angoulême Pears, and Pitmaston Orange Nectarines, all in first-class condition. Mr. J. Nicholson, gardener to Wm. Melles, Esq., Sewardstone Lodge, was second, his Apples being extremely fine, especially Warner's King, Peasgood's Non-such, and Alexander; while Mr. S. T. Wright, gardener to C. L. Campbell, Esq., Hereford, was a close third, showing clean fruits, but somewhat smaller than the others.

#### THE GRAPE CLASSES.

Beyond all question the Grapes constituted the special feature of the Edinburgh Show, and most critically were they examined by the numerous gardeners present. For such an unfavourable season the Grapes shown were of surprising quality, and though exhibits of extraordinary merit were not numerous, yet there was an evenness throughout that caused the Judges much difficulty in several cases. It was stipulated in the schedule that all Grapes should be exhibited on properly inclined stands, neatly covered with white paper, of a uniform breadth from front to back of 14 inches, depth at back 10 inches, and depth at front 2 inches. As this was followed consistently the effect produced by the regular stands was good, and it also to some extent facilitated the judging. The leading class was that for eight bunches of four varieties, two bunches of each, the prizes being £15 (offered by Messrs. W. Thomson & Sons, Clovenfords), £8, and £4, and the eight collections contributed constituted a grand display of fine Grapes. Mr. A. Kirk, gardener to J. T. Paton, Esq., Norwood, Alloa, was adjudged first honours for grand bunches, well coloured, of the following black varieties—Madresfield Court, large berries, excellent colour; Black Hamburg, medium sized berries, but fine solid bunches, bearing a dense bloom; Gros Maroc, admirable bunches of fine colour; and Alnwick Seedling, finished to perfection. Mr. Wm. Taylor, gardener to Alderman Chaffin, Bath, was placed second, but the contest was a close one, and the bunches staged were superb examples of their respective

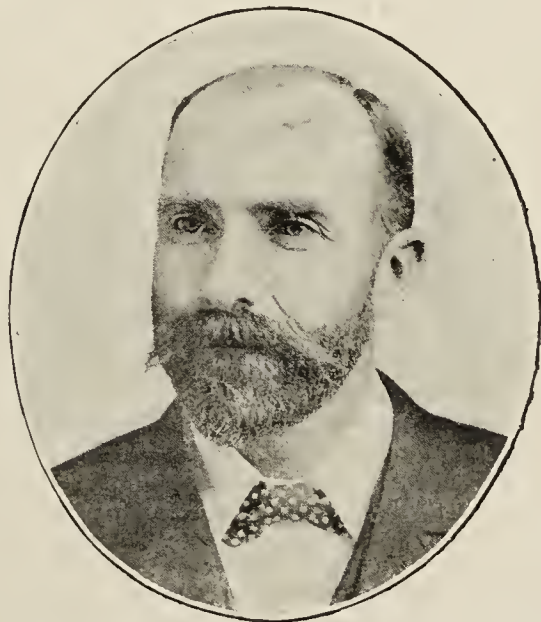


FIG. 47.—MR. G. MACKINNON, MELVILLE CASTLE.

varieties, which were as follows—Alnwick Seedling, Muscat of Alexandria, excellent colour; Alicante, large bunches and berries, but slightly rubbed; Madresfield Court, also very fine, but, like the last named, it had apparently suffered in transit. Mr. W. Murray, gardener to T. C. Learmouth, Esq., Polmont, was a good third with Alicante, Alnwick Seedling, Muscat of Alexandria, and Black Hamburg.

For six bunches (not less than three varieties), Mr. Kirk was again first with black Grapes, even and excellent bunches of Black Hamburg with rather small berries, Madresfield Court, large bunches of fine colour, and Gros Maroc, with very large berries and excellent colour. Mr. J. W. Machattie, gardener to the Marquis of Lothian, Newbattle, was second with well grown specimens of Muscat of Alexandria, Madresfield Court, and Black Hamburg. Mr. G. Mackinnon, gardener to



Viscount Melville, Lasswade, was third, his Gros Maroc being wonderfully fine in bunch and berry, Madresfield Court slightly deficient in colour, Golden Hamburgh well ripened, and Muscat of Alexandria rather small. There were eleven competitors in this class, the total number of bunches thus exceeding those in the preceding class.

Ten also entered with four bunches, one bunch of each variety, and there Mr. Wm. Taylor easily secured first honours for Alnwick Seedling, Madresfield Court, Muscat of Alexandria, and Alicante, all represented by large bunches in excellent condition. Mr. Kirk followed, again staging all black varieties—viz., Black Hamburgh, Madresfield Court, Alicante, and Gros Maroc; Mr. W. Murray being third for Madresfield Court, rather small berries, Muscat of Alexandria well ripened, Gros Maroc of fine colour, and a large bunch of Alicante.

Following those already noted in the order of the schedule ten classes were devoted to special varieties, two bunches of each, and the same for one bunch, in which the competition was good, and the awards were made to the exhibitors here named.

**Black Hamburgh.**—This variety was not shown in its best condition generally, but with two bunches Mr. Witherspoon, Red Rose Vineries, Chester-le-Street, was well first amongst nine competitors with compact, neat, useful examples; Mr. T. Boyd, gardener to W. Forbes, Esq., Falkirk, being second with rather small bunches and berries, Mr. McHattie following with good bunches of large berries, but not fully coloured. Twelve single bunches of the same variety were shown, and Mr. Morrison was first with large bunches, the berries medium sized and the colour fair. Mr. J. Day was second for a compact bunch, and Mr. Murray third for a medium bunch of large berries.

**Muscat Hamburgh.**—Only one class was devoted to this variety, and there were but four competitors, each staging two bunches. Mr. J. Day easily won the leading place with solid bunches, exceptionally well coloured. Mr. T. Boyd followed, his exhibit also being distinguished by good colour, and Mr. D. Murray was third for large bunches but somewhat red.

**Madresfield Court.**—A fair display was provided of this excellent Grape. With two bunches Mr. Day was first for grand examples both in size and colour. Mr. W. Murray was second, staging large handsome bunches a little wanting in colour; and Mr. Witherspoon was third for medium sized bunches of good colour. Six single bunches were contributed, Mr. Wm. Taylor leading with a fine bunch of medium-sized berries, but capital colour; Mr. McKelvie occupied the second place, staging a fine bunch, only slightly deficient in colour; Mr. Witherspoon being third again with a medium-sized bunch of good colour.

**Alicante.**—This variety was well represented, the eight pairs of bunches in class 13 and the six singles in class 21 comprising some fine specimens. With two bunches Mr. Murray won first honours for heavy compact bunches, the berries rather small, but the colour excellent. Mr. Taylor was second with large handsome bunches; and Mr. S. T. Wright third for good bunches bearing a dense bloom. For a single bunch Mr. Taylor was deservedly first, the bunches large and the colour excellent; Mr. W. Murray followed very closely, and Mr. Witherspoon was third. All these being nearly equal in merit.

**Gros Colman.**—The pair bunch class was the only one allotted to this variety, and five capital exhibits were contributed, Mr. Wm. Taylor securing first honours for grand bunches, the berries remarkably large, and the colour good. Mr. J. Potter, gardener to W. P. Moore, Esq., Whitehall, Carlisle, secured the second place with medium-sized bunches and berries, the colour dense; and Mr. J. Day was third, his bunches being heavy, and with fine bloom.

**Lady Downe's.**—It is evident this variety is a great favourite in the north, for ten pairs of bunches were shown, and the same number of single bunches, making an array of thirty, surpassed only by Muscat of Alexandria in numbers. Mr. Wm. Murray had the best two bunches, solid, and of excellent colour. Mr. J. Morrison was second for long compact bunches with rather small berries; and Mr. W. J. Green, Yester, took the third place for smaller bunches, but equally good in colour. The finest single bunch came from Mr. J. Laing, gardener to General C. Rathay, Blairgowrie, which was nearly perfect in all respects. Mr. Murray, who followed closely also, had an even and well coloured bunch; Mr. Morrison being third with a large bunch.

**Muscat of Alexandria.**—Thirty-nine bunches of Muscats were staged in the two classes, and it can be imagined that these formed an imposing display, but there was perhaps greater variation in the merits of the exhibits than in any other of the Grape classes. The best two bunches (amongst thirteen exhibitors) were contributed by Mr. Machattie, and well did they deserve the honour, for very seldom are such fine clean rich golden coloured specimens of this beautiful Grape seen in gardens or at exhibitions. It was not surprising, therefore, that it was selected for the Veitch Memorial medal and £5 prize offered for the best dish of fruit in the Show, no mean honour in such an extensive display of fruit. Mr. W. Taylor followed with heavy well proportioned bunches, fine berries and beautifully coloured, but wanting the golden tint of the first. Mr. G. Winter was third for large bunches of clean medium sized berries. Thirteen single bunches were also staged, Mr. Machattie leading with medium sized but beautifully coloured bunches; Mr. Green was second, and Mr. Wyton third.

**Buckland Sweetwater.**—Eight pairs of bunches were shown in this class, Mr. J. Potter leading for specimens of an excellent amber colour. Mr. W. Allan, Gunton Park, Norwich, was second for medium-sized bunches, large berries, and beautifully ripened. Mr. J. Heath, gardener to J. Wakefield, Esq., Sedgwick, Kendal, followed with medium-sized examples.

**Alnwick Seedling.**—In Class 23, for one bunch of this variety, there were seven exhibitors, and the premier award was secured by Mr. Green, who had handsome specimens, the berries very large and the bloom dense. Mr. Murray followed with solid even bunches, perhaps not quite so well coloured; and Mr. Taylor was third, his exhibit being distinguished by the size of the berries and the fine colour.

**Gros Maroc.**—An admirable class was formed by the twelve exhibits of this variety, which indicated its characters in the best possible way. Mr. J. Leslie won the premier prize for exceedingly large solid bunches of capital colour. Mr. W. Taylor was a very close second—in fact, it was difficult to detect a point of difference in favour of the first. Mr. J. Day was third, the berries being of medium size, but the colour capital.

**Mrs. Pince.**—Six bunches of Mrs. Pince were placed in competition, but none were very remarkable. Mr. Stewart had good bunches and uncommonly fine berries, but the colour was not quite perfect. Mr. Murray was second, his specimens having small berries but capital bloom. Mr. Day took the third place, both bunch and berries small, but the colour was excellent.

**Duke of Buccleuch.**—Seven bunches were shown, and some were extremely good. Mr. Chalmers had medium bunches, excellent berries, clean, and of good colour. Mr. Copeland had small bunches, but fine bright berries; and Mr. McIndoe's third prize bunch was noticeable for its good finish.

**Golden Champion.**—Only three bunches were exhibited in this class, but the premier one, from Mr. McIndoe, was uncommonly good for the variety, the bunch solid and berries large. Mr. Witherspoon was second with ripe specimens, and Mr. Hannah third for rather greenish samples.

**Miscellaneous Grape Classes.**—Competition was brisk in the classes for two bunches of any other black or white variety, nine entering in each. The best black was Gros Maroc, shown by Messrs. Day, Taylor, and W. Murray in the order named. The best in the any other white classes (two bunches) was Duke of Buccleuch from Mr. Copland, whose specimens were clean and excellent in all points, the berries large, and the colour admirable. Mr. McIndoe had the same variety also represented by large clean berries; and Mr. Potter was third for huge bunches of Trebbiano.

Prizes were offered for the best bunch of a seedling Grape not in commerce, and Mr. McIndoe won leading honours for a variety named Black Duke, the result of a cross between Gros Guillaume and Duke of Buccleuch. It appears to be a promising variety, the bunches large, the berries oval, and of considerable size, black, fleshy, with a pleasant but not very pronounced flavour, and a thick skin. Mr. D. Murray was second with a black seedling, concerning which no particulars were furnished; Mr. Myles was third for Appley Towers, a cross from Gros Colman and Alicante, which has been noticed before.

The finest flavoured black Grape was a rather red bunch of Muscat Hamburgh from Mr. D. Murray. Mr. McKelvie was second for Madresfield Court, and Mr. Houston third for Black Hamburgh. (Thirteen exhibits.)

The best flavoured white Grape was Muscat of Alexandria, with which Messrs. Machattie, G. Winter, and McKelvie won the prizes. For one bunch of a Grape with the finest bloom Mr. Day led with Gros Maroc, followed by Mr. D. Murray for the same variety, and Mr. Chalmers for Gros Colman. In the class for the heaviest bunch of a black Grape Mr. Matheson was first with Gros Colman, weighing 12½ lbs., an enormous specimen with large berries, but nearly green. Mr. Leslie followed with Alicante weighing 11 lbs. 2 ozs., and Mr. Kirk was third for Gros Guillaume of considerable size in bunch and berry, but reddish. In the corresponding white Grape class Mr. Morrison was first for Raisin de Calabre, Mr. Hannah second for the same variety, and Mr. Murray third with Syrian. The weights were not stated, but they were not so heavy as the black. Besides these there were fourteen classes for Grapes open to gardeners and amateurs from which competitors in the preceding sections were excluded. In these most of the varieties already named were included, and the chief prizes were awarded to Messrs. McDonald, Caldwell, Harper, Dobbie, Cocker, McLeod, Cameron, and Scott.

#### OTHER FRUIT CLASSES.

Fruit trees in pots constituted a section of three classes, but the exhibits, with few exceptions, were not remarkable. For a Vine in a pot (black) Mr. A. Duff, gardener to R. Bell, Esq., Clifton Hall, Ratho, was first, showing Gros Maroc with a few indifferent bunches. In the corresponding white Grape class Mr. J. Harvey, gardener to Colonel Trotter, Morton Hall, secured the same award for Muscat of Alexandria. A class was also provided for four fruit trees in pots, Vines excluded, and there Mr. McIndoe was first with well fruited specimens of Pears, Apples and Peaches.

Pine Apples were not shown in large numbers, and though the fruits were generally good they were not so fine as has been seen at some southern shows and meetings. Mr. M. McIntyre, gardener to Sir D. Tennant, Bart., The Glen, was the principal competitor, and staged fine fruits. He was first for two ripe Pine Apples in pots, for two Smooth Cayennes, and for two Queens. For any other variety Mr. A. Kirk was first; and for one seedling not in commerce Mr. Hunter was first with a handsome fruit of Lord Carrington.

Melons were numerous, the chief prizes going to Mr. J. Wilson, gardener to Lord Elphinstone, Carberry Towers, who had the best two fruits, Blenheim Orange and La Favourite, the last-named variety from



the same exhibitor leading in the scarlet-flesh class, and Blenheim Orange from Mr. A. Miller, gardener to W. H. Long, Esq., M.P., Rood Ashton, in the green-flesh class.

Peaches and Nectarines were fairly well shown, Mr. Lunt, gardener to H. Stirling, Esq., Keir, being the principal exhibitor, and won the first prize for twelve Peaches, six ditto, and twelve Nectarines with beautiful fruits; but for six Nectarines Mr. T. H. Crasp won easily with Pitmaston Orange of good size and capital colour. Apricots were also good, the best coming from Messrs. Goodfellow and Fairgrieve.

Plums were largely represented, over seventy dishes of dessert varieties, and nearly as many of culinary varieties, being entered in competition, the classes being devoted to the chief sorts grown in gardens. The majority of the prizes in the single dish classes were won by Mr. Peter Blair, Trentham Gardens, other successful exhibitors being Mr. G. Bowman, Lasswade; Mr. A. Wilson, gardener to R. A. Oswald, Esq.; Mr. J. Day, Mr. J. Harper, Jersey, and Mr. McIndoe.

Apples were an excellent show in themselves, for the exhibits were extremely numerous, and the quality, in the majority of instances, was highly satisfactory. Pears also were largely shown, and in both instances, while a few classes were devoted to collections, the majority were for special varieties, as in the case of the Grapes, Plums, &c. It was a subject of comment that Mr. Harper of St. Helier's, Jersey, who carried off many important prizes, should have been allowed to compete in these classes, especially as provision was made for Channel Island fruits under the heading, "Fruits Grown Abroad." Some of the competitors who were defeated by Mr. Harper entered protests in the matter, but no decision was made public before the close of the Show. Next to Mr. Harper, who exhibited excellent fruits, Mr. T. H. Crasp was the most successful, being first amongst Pears for Jargonelle, Louise Bonne of Jersey, and Haeon's Incomparable, with minor prizes in several other classes. Prizes also went to Messrs. Donald McBean, Renfrewshire; J. Day, R. Sinclair, A. Wilson, McKelvie, and Gilmour. In the Apple classes the chief prizewinners were Messrs. J. McKenzie, Linton Park Gardens, Maidstone; Nicholson, J. Day, S. T. Wright, T. H. Crasp, Goldie, and Gilmour. Strawberries, Currants, and Gooseberries were also fairly well shown, but do not call for special comment.

#### PLANTS.

The section of the Exhibition appropriated to plants was the weakest of all, as the exhibits were neither very abundant, nor were they in most classes up to the high standard distinguishing the other part of the Show. Although prizes of £20, £15, and £10 were offered for ten stove and greenhouse plants, only two competitors had the courage to enter, and one of these journeyed a long distance for his honours—namely, Mr. W. Finch, gardener to J. Marriott, Esq., Queen's Road, Coventry, who was deservedly awarded the first prize for well-grown specimens of *Ixora Williamsi* and *amabilis*, each about 5 feet high, nearly as much in diameter, well clothed with foliage, and bearing fine heads of flowers. Other good specimens of similar size were *Croton Warreni*, *Lapageria rosea* and *alba*, *Croton Johannis*, grandly coloured; and *Erica Eweriana*, with tall stately examples of *Kentia Belmoreana*, *Kentia Fosteriana*, and *Cycas circinalis*. Mr. A. Crichton, Southfield, Camberton, was second with much smaller plants, and his prize was easily won. Six stove and greenhouse plants were not of remarkable merit, but Mr. Thompson's, of Eskbank, first prize collection included several healthy specimens of moderate size. The fine-foliage plants were also of medium size, Mr. McIntyre of Inverleithen, Mr. McIntyre of Darlington, and Mr. Stewart, Brayton Hall, being the prizewinners in that order.

By far the most remarkable plant in these classes was that with which Mr. Finch won the first prize as a single specimen in flower. This was a magnificent example of *Ixora Duffi*, some 5 feet in height, clothed with its long dark leaves down to the pot rim, and bearing upwards of twenty large globular trusses of flowers. This plant was so conspicuously prominent that it easily gained for Mr. Finch the Veitch Memorial medal and £5 prize offered for the best Orchid, stove, or greenhouse plant in the Show.

Ferns were amongst the freshest and best of the plant exhibits, and furnished a very agreeable foil to the bright tints of the cut flowers, which supplied the principal colour in the building. Adiantums and British Ferns were the most abundant, and amongst the latter the *Scelopendriums* were very notable. Some of the more successful exhibitors were Mr. McIndoe (table Ferns), Mr. Napier, Rockville (exotic Ferns), Mr. McIntyre, Darlington (*Gleichenias*), Mr. Henderson, Polmont, (Adiantums), Messrs. Leman, Restalrig House; Napier, T. Pringle, Dalkeith; E. Cameron, Scott, Anderson, Pilrig, and J. Cumming.

Orchids were not in their best, and could not be expected to be at this time of year. The result was the exhibits occupied but small space, and comprised but few plants of an exceptional character. The leading six Orchids came from Mr. Sharp, Freeland; moderately good specimens of *Lælia elegans*, *Odontoglossum Pescatorei*, *O. vexillarium rubrum*, *Cypripedium superbiens*, and *Cattleya Gaskelliana* being the most noteworthy. Mr. Curror of Eskbank was second with smaller plants of little importance except *Oneidium incurvum*, which was one of the finest ever exhibited, being loaded with its small delicately tinted flowers, but it was rather spoiled in appearance by the panicles being trained tightly into a globular form. If they had been taken up straight from the plant the effect would have been much more pleasing—indeed, some thought it would have stood a good chance for the Veitch Memorial prize. The prizewinners with three Orchids were Messrs. Wilson,

Sharp, and McGregor, the last-named being also first for a single specimen. Crotons, Palms, Tuberous Begonias, Fuchsias, table plants, and Vallotas were all represented by numerous exhibits, but the Vallotas were unusually good, and are rarely seen at southern shows in such numbers or such good condition.

The groups of plants with which we are familiar in England assume a different character in Edinburgh, for instead of being arranged upon the ground as with us they are disposed upon tables, which must unavoidably impart considerable formality to the arrangement, though the space can be very accurately apportioned. However tasteful a margin is formed—and much skill was displayed in this matter—it is impossible to give the same freedom to the edge of a group upon a table as it would be on the ground level. Nearly all the classes of this kind provided in the schedule were for nurserymen, but there was one for gardeners and amateurs, in which Messrs. R. B. Laird & Sons, Edinburgh, offered a ten-guinea clock as the first prize for a table of plants 20 feet long by 5 feet wide. This was accorded to Mr. McIntyre of Darlington, who had a tasteful arrangement, in which a due proportion of flowering and foliage plants were employed with good effect, the margin also being skilfully managed. Mr. Wood, Oswald House, Edinburgh, followed closely, Crotons predominating in his arrangement, while Mr. Reynard of Hamilton was third with a group of healthy little plants.

In the nurserymen's division the chief class was that for a group of plants arranged on a table 30 feet long by 8 feet wide, and the exhibits in this class not only occupied much space, but they formed one of the most pleasing parts of the plant display. Messrs. Ireland & Thomson, Edinburgh were adjudged first honours for an exceedingly handsome group, in which brilliantly coloured Crotons were employed with Palms, Ferns, and other graceful foliage plants, together with Orchids, especially *Cattleyas* and *Odontoglossums*, *Liliums*, *Eucharises*, and a fine margin of *Panicum variegatum* and *Caladium argyrites*. Messrs. Thyne, Glasgow, were second, *Odontoglossums* being largely employed, and with an edge of *Caladium argyrites* gave rather too light an appearance to the group. Messrs. Laird & Sons, Edinburgh, were third with a rather different style of arrangement, the plants being disposed in circular groups on the table, margined with *Panicum*, *Selaginellas*, and *Ficus repens*.

The nurserymen's Crotons, though not of great size, were exceedingly bright in colour, particularly those with which Messrs. B. S. Williams and Son, Upper Holloway, London, won the first prize for six plants. These included *Williamsi*, *Rodeckianus*, *formosus*, *Warreni*, *Queen Victoria*, and *Comtesse*. Messrs. Ireland & Thomson were second also for finely coloured plants of *Warreni*, *Evansianum*, *Newmani*, and *angustifolius*.

New and rare plants not in commerce before January 1st, 1889, were not represented by many collections. The best six were shown by Messrs. Ireland & Thomson, and included *Caladium Marie Freeman*, *Dracaena species*, *Coeos Pynaerti*, *Maranta Mooreana*, *Alocasia Thomsoni*, and *Nepenthes Dicksoniana*, a hybrid which was selected for the Veitch Memorial medal, but it was subsequently found that this was contrary to the regulations as being exhibited by a nurseryman, and the award was therefore disallowed. Messrs. B. S. Williams & Son were placed second with some fine novelties, and Messrs. Laird & Son were third. Coniferæ were shown by Mr. Butler, Greenock; Messrs. Laird and Son, and Messrs. Stuart & Mein of Kelso, who won the prizes in that order. Messrs. Ireland & Thomson were first for six Orchids, healthy medium sized plants of *Cypripedium Ashburtoni*, *Odontoglossum grande* and *vexillarium*, and *Vanda Kimballiana*.

#### CUT FLOWERS.

Although this was an autumn Show Roses were shown in capitally fresh condition, and excited even more interest than the Dahlias. For thirty-six Roses Mr. Cocker of Aberdeen was awarded premier honours with bright beautiful blooms, amongst which the following varieties were conspicuous:—*Alfred Colomb*, *Her Majesty*, *Waban*, *Comtesse de Serenye*, *Mrs. John Laing*, *Ulrich Brunner*, *Charles Lefebvre*, and *Marie Van Houtte*. Mr. Dickson of Belmont was second, and Mr. Smith of Stranraer was third. Mr. Cocker was also first for twelve Tea Roses, and Mr. Smith again followed.

The best twenty-four Show Dahlias were exhibited by Messrs. R. B. Laird & Co., Messrs. Clark & Sons of Leeds following closely, this exhibitor being also first for twelve Fancy Dahlias, followed by Mr. Campbell and Messrs. R. B. Laird & Co., the last named being first for six Chrysanthemum blooms. Messrs. A. Kerr & Son, Roxburgh, were first with twelve spikes of Hollyhocks, Messrs. Stuart & Mein, with Mr. G. Wood, Hawick, securing the other prizes, but the first and second collections were much superior to the others in competition. Mr. Campbell had the best thirty *Gladioli* spikes, massive, well proportioned, with large richly coloured flowers.

In the gardeners' and amateurs' classes there was a fairly good display of Roses, Pansies, Stocks, Hollyhocks, and Dahlias, but the competition was not so keen as in other departments of the Exhibition. With twenty-four Roses Mr. A. H. Gray, Bath, was first, followed by Mr. D. Wallace of Rothesay, and Mr. William Parlanc, Golffhill, Ross. Mr. Gray was also first for twelve Tea Roses, Messrs. Mellinder and Bryden following. In the Pansy and Viola classes the chief exhibitors were Messrs. A. Ollar, McCan, Frater, Storrie, Adam, and Paterson. The best Stocks were staged by Mr. Morrison, the best Hollyhocks by Mr. Rae and the Rev. J. Middleton, and the best Dahlias from Mr. Spoor.



## VEGETABLES.

The vegetables were exhibited in exceedingly large numbers and fine quality, and strongly as these important products always are represented, at northern shows very seldom have such displays been seen as that under notice. In the great class for twelve distinct varieties there were seventeen competitors, and they contributed vegetables so nearly equal in merit that the Judges had a serious task in making the awards. Mr. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Hants, won the premier honours—a 10-guinea prize—with admirable examples of Standard Bearer Celery, Autumn Mammoth Cauliflower, Oxonian Leeks, perhaps the weakest dish; Perfection Tomatoes, Sutton's Student Parsnip, handsome Satisfaction Potatoes, Ne Plus Ultra Beans, Long-keeper Onions, Duke of Albany Peas, Green Globe Artichokes, and Pragnell's Exhibition Beet. The second place was taken by Mr. J. Muir, gardener to Miss Talbot, Margam Park, Glamorganshire, whose specimens were very even, clean, and true in character. They included Early Rose Celery, Champion Leeks, Eclipse Cauliflowers, Yellow Perfection Turnips, Cardiff Castle Cucumbers, Webb's Sensation Tomatoes, Duchess Peas, and Satisfaction Potatoes in fine condition. Mr. T. Wilkins, gardener to Lady Theodora Guest, Norwood House, Dorset, was third with a highly creditable collection, and it was remarked by several as a curious fact in so keen a competition that all these prizes should have gone to exhibitors from the south. Mr. W. Harper, gardener to J. R. S. Richardson, Esq., Perth, was fourth, his exhibits comprising some well-grown vegetables.

The next class was also for a collection of twelve varieties, but excluding Tomatoes, Mushrooms, and Cucumbers, and the competition was again very keen, though the entries were not so numerous. After careful consideration Mr. J. Cocker, gardener to Sir William Wallace, Bart., Stranraer, was placed first, his Leeks, Celery, Cabbages, Onions, Turnips, and Peas being notable dishes. Mr. J. Low, gardener to J. Paton, Esq., Stirling, was second, being defeated by only a few points, his specimens being extremely good. Mr. G. Potter, gardener to Mrs. Laidlaw, North Berwick, was third with a good exhibit.

Potatoes were shown in extraordinary numbers, there being thirty-six entries in the class for eighteen dishes, for which prizes of 10 guineas, £5, and £3 were offered. Long consideration the Judges devoted to this class, and without a doubt they had the most difficult task in whole Show. It was not surprising if their professional skill was taxed severely where so many exhibits appeared of first-rate quality, and if about a dozen first prizes could have been awarded it would have relieved them materially. The decision was at last given in favour of Mr. J. Sinclair, Harviston, Dollar, who had clean even tubers of the undermentioned varieties—Best of All, Satisfaction, Vicar of Laleham, Matchless, Lord Tennyson, Lady Francis, Handwood's Perfection, Reading Russet, The Dean, Jeannie Dean, Village Blacksmith, Abundance, Jubilee, Mr. Breeze, Snowdrop, Chancellor, Puritan, and Lady Dundas. Mr. J. Robertson, gardener to Lord Campbell, Hartrigge House, was second, and Mr. J. Gentleman, West Craigmerrrie, Armadale, was third, both exhibiting collections of much merit. Several fine exhibits were of necessity left unrecognised, but one collection, from Mr. Wiles of Edgecote, Banbury, was certainly worthy of an award, and should have had a place amongst the winning exhibits. For six varieties of Potatoes, Mr. Gentleman, Mr. J. McFarlane, Alva, and Mr. Wiles were the prizetakers, but even here the awards did not give entire satisfaction, and the last-named should have had a higher place.

Classes were provided for Cucumbers, Peas, Beans, Brussels Sprouts, Cauliflowers, Cabbages, Celery, Leeks, Parsnips, Carrots, Turnips, and all the principal crops of the vegetable garden, but to enumerate them all with the exhibitors would far exceed the space at our disposal. It must, however, be mentioned in this section that valuable special prizes were offered by seedsmen and nurserymen for vegetables which brought an astonishing competition. Messrs. Sutton & Sons, Reading, had thirteen classes for their special varieties, and when it is stated that the number of entries in these reached no less a total than 278, it can be imagined what an extensive and handsome display was provided. Messrs. Dobbie & Co., Rothesay, also offered prizes in two classes for vegetables, and Mr. J. Wilson, Hereford, had two classes for Onions, and in all these the competition was keen.

## NON-COMPETING EXHIBITS.

Considerable space was required by the non-competing exhibits from nurserymen and others, which imparted much additional interest to the Show. It is somewhat strange, however, that with one exception of unquestioned merit, none of the beautiful collections of plants and flowers, many of which had been brought a great distance, received any recognition from Judges or Council. At least this was the case as far as could be ascertained at the close of the Show, and certainly no awards were affixed to the groups. A magnificent exhibit of plants, cut flowers, and fruits arranged with remarkably good taste won for Messrs. Wm. Thomson & Sons, Clovenfords, the award of a gold medal, an honour that was amply deserved, for without doubt it was one of the best displays of the kind ever exhibited. With it were included some large paintings of Orchids, especially of the new and handsome *Dendrobium Phalaenopsis* var. *Schroederianum* from Messrs. Sander and Co., St. Albans, and some interesting Orchid photographs representing the re-discovery of the true autumn-flowering *Cattleya labiata*.

Prominent amongst the exhibits from England were the following. An excellent group of Orchids with stove and greenhouse flowering and fine-foliage plants from Messrs. B. S. Williams & Son, Upper Hol-

loway, which occupied a long table and comprised a selection of rare and beautiful plants from their extensive collections, and including many fine novelties. Messrs. J. Laing & Sons, Forest Hill, London, had a group of their grand Tuberous Begonias, Caladiums, Crotons and other plants, which attracted many admirers of these showy plants during the three days. Messrs. Cannell & Sons, Swanley, contributed a superb bank of Cactus Dahlias, one of the largest and most effective exhibits yet seen, and with them also were some handsome Tuberous Begonias. Messrs. Cutbush & Son, Highgate, staged one of their interesting collections of stove and greenhouse plants, fine healthy little specimens of all the more useful sorts.

Ferns in choice variety, forming several refreshing groups, came from Messrs. W. & J. Birkenhead, Sale, Manchester, comprising beautiful novelties both amongst hardy and greenhouse Ferns. Messrs. Bunyard and Co., Maidstone, sent a large collection of fine Apples. Messrs. J. Cbeal & Sons, Crawley, also had a large space occupied with Apples, Pears, and Dahlias. Mr. J. Walker, Ham, Surrey, showed a collection of fine Apples and Pears. Mr. Rust, Eridge Castle Garden, Kent, contributed a collection of Apples and Pears. Mr. Devcill of Banbury showed his fine exhibition Onions. Mr. Watkins of Hereford had a number of Apples and Pears; and the Royal Horticultural Society of London sent a large collection of Apples and Tomatoes, good specimens of their respective varieties.

Amongst the northern and other exhibits, besides those already mentioned, were the following—Messrs. J. Dickson & Son, Edinburgh, a group of hardy trees and shrubs; Mr. J. Forbes, Hawick, a collection of cut flowers; Messrs. James Cocker & Co., Aberdeen, a tasteful display of hardy flowers; Messrs. Dobbie & Co., Rothesay, a group of Dahlias and Marigolds; Messrs. Hugh Dickson & Co., Belfast, a beautiful display of Roses; Messrs. Stuart & Mein, Kelso, choice Hollyhocks and hardy flowers; Mr. M. Cuthbertson, Rothesay, a large group of hardy flowers; Mr. Campbell, High Blantyre, a collection of florists' flowers; Messrs. Laing & Mather, Kelso, a group of Carnations; Mr. A. Lister, Rothesay, Pansies and Marigolds; Messrs. Dickson and Co., Edinburgh, a handsome group of miscellaneous plants; Messrs. T. Methven & Sons, Edinburgh, a table of foliage and flowering plants; and Mr. J. Downie, Edinburgh, had a table of Tuberous Begonias.

## THE DINNER.

On Wednesday evening a company of about 120 gentlemen, members of the Royal Caledonian Horticultural Society, Judges, and visitors, representing probably one of the best gatherings of horticulturists ever brought together in Scotland, dined in the Waterloo Hotel, Edinburgh. Sir James Gibson Craig, one of the Vice-Presidents of the Society, occupied the chair; Mr. W. Thomson, sen., Clovenfords, and Mr. C. Stewart, W.S., the Secretary, acted as cronies; the Chairman being supported by Mr. A. F. Barron, Alderman Chaffin, Mr. Bruce Findlay, and members of the Corporation. In proposing the toast of the evening, "The Royal Caledonian Horticultural Society," the Chairman remarked that the Show in connection with which they were assembled was the finest he had ever seen, especially as regarded fruit, flowers, and vegetables, and that not only the Society, but the City of Edinburgh and the kingdom might be proud of it. Having commented on the useful work which the Society had accomplished since its establishment, the Chairman concluded by pointing to the enormous advance observable in the care of public gardens, and gave it as his opinion that the way in which the Princes' Gardens were managed was a credit to any city in the world.

Mr. Wm. Thomson, in replying, remarked that while the plants shown that day might not be so good as he had seen, the fruit, flowers, and vegetables were equal to anything that had been brought together within his knowledge. In conclusion, he referred to the work of the British Fruit Growers' Association and the Conference to be held the following day, and urged the desirability of more attention being given to the cultivation of fruit. In afterwards responding to the toast of "The Corporation of Edinburgh," which had been proposed by Mr. A. Milne, Edinburgh, Bailie M'Donald adverted to the value of the Waverley Market for such exhibitions as that in connection with which they were assembled, and spoke of the loss which the citizens would have sustained had they been deprived of the building through the proposals of a railway company. The other toasts included "The Royal Horticultural Society," proposed by Mr. Dunn, Dalkeith Palace Gardens, responded to by Mr. Barron; "The Judges," responded to by Mr. Findlay and Mr. D. Thomson; "The Competitors and Exhibitors," for whom Mr. H. Williams and Mr. McIndoe replied; "The Officials of the Society," "The Visitors," coupled with the name of Alderman Chaffin, and "The Chairman."

## THE CONFERENCE.

On Thursday, September 10th, at 3.30, the British Fruit Growers' Association held a Conference on fruit culture in conjunction with members of the Royal Caledonian Society in the Waterloo Hotel, when Councillor Colston took the chair, and there was a representative gathering of northern horticulturists. The Chairman, in a few well chosen words, explained the objects and work of the Association, and Mr. G. Gordon followed with some observations on the present condition and prospects of fruit culture for profit. Mr. Dunn of Dalkeith gave an interesting address upon fruit culture for profit in Scotland, which was followed by some discussion, in which Mr. Cannell of Swanley and Mr. Dickson of Belfast joined. Mr. Sinclair of East Linton discoursed on the



culture of Strawberries for market in an excellent and practical manner, Mr. Carmichael and Mr. Machattie taking part in the discussion. Mr. Joseph Cheal then read an admirable paper on gathering, packing, and storing fruits. A vote of thanks to the Association for arranging the Conference, coupled with the name of the Hon. Secretary, Mr. Lewis Castle, was proposed by Mr. Milne, seconded by Mr. Machattie, and supported by several members of the Royal Caledonian Society, and carried unanimously, and the proceedings closed with a vote of thanks to the Chairman. Concerning the subjects discussed we are promised something farther next week.

[In accordance with our promise last week we present our readers with the portraits of four more northern horticulturists, who as members of the Council, the Committees, or as exhibitors have taken a prominent part in the management of the Royal Caledonian Society and the Exhibition last week. The names of those included are Mr. J. W. Machattie, Newbattle Abbey Gardens, Dalkeith; Mr. J. Day, Galloway House Gardens, Wigtonshire; Mr. T. Lunt, Ardgowan, Greenock; and Mr. G. Mackinnon, Melville Castle Gardens. We have other portraits in preparation for another week.]

#### PRESTON AND FULWOOD HORTICULTURAL SOCIETY.

At the monthly meeting of this Society, held on Saturday evening, there was a large attendance of members. Mr. Alderman Walmsley was voted to the chair. On the tables were displayed several noticeable floral contributions, about which an interesting statement was made later on by the Secretary, Mr. J. Atherton, who also read a letter from Mr. R. W. Hanbury, M.P., expressing his willingness to accept the presidency of the Society for the ensuing year.

Mr. A. Waters read a paper on "The Use and Abuse of Water and Syringing." Referring to plants first, he said that they were not likely to take so much harm from overwatering as fruits were. Fruit must be supplied for the table, and as free from defects as possible. If the fruits were not produced in a satisfactory manner they might depend upon it that flowers would lose their attractions. So he accorded the premier place to fruit. He found there was an idea prevailing among young men employed in gardens that Azaleas should not be watered until the pots in which they were set rang as if they were empty. The sooner that idea was dispelled the better. A too scanty supply of water at the roots had been the cause of many unsightly objects among plants. He no more believed in the Heath or Azalea plants being allowed to become dry than that the forest trees should be put away during the winter. His idea was, therefore, syringing with judgment. Soot water was good for Camellias. Dracenas usually came in for a larger supply of water than was good for them. They would retain their foliage and colour better by being cleansed with a sponge than by being syringed. Some might say that they had no time for sponging, but nevertheless they ought to sponge. Crotons they could not well injure by syringing, because the leaves were so constructed as to throw off the water, while with Dracenas it was different; the leaves conducted the water inwards to the roots.

No one was more in favour of having the vineries well watered than he was, but he thought there was nothing more injurious than to carry buckets of water and throw over the paths at night and then shut up the house until the morning. Some would object to saturating the foliage. So would he; but saturating and judiciously damping were different things. This was particularly the case in forcing houses. In regard to the Vine the root action was slow for the first two months, and he thought they should see less shanking if there was more judicious watering and at the proper time. They must not treat the roots as if they were drunkards. Peaches should have a good supply of water when they require it. He was opposed to excessive watering. It could only have one effect, and that was an injurious one. Many conditions had to be taken into earnest consideration before they could get at a safe principle upon which to work. It was astonishing how little water was needed until the stoning period. After that time they could increase the supply. Syringing should almost cease when the fruit was ripening, but after the crop was gathered syringing should begin again. Neglecting the watering from the time the crops were gathered until the time for forcing commenced again accounted for failure on the part of many gardeners in former times. They should never allow the roots to become dry at any period of the year. Melons required good management, especially in seasons like the one we had just passed through. Melons were always in request for as long a period as they could supply them, and he had got them from March to November. "How have your Melons done this season?" was a question commonly asked among gardeners, and from that they gathered that it was an important question. To those who had to keep up a constant supply in seasons like the present it was a perplexing matter. The weather, which ruled so many things, had a great influence on the well-being of Melons. They should prepare the beds in such a way that the roots may find sufficient food to support the plant until it gained strength with as few waterings as possible. He thought enough had been said to show that he was of opinion that some fruits were injured by excessive syringing, and that hardwooded plants suffered from the opposite extreme.

The Secretary then read his statement upon the contributions they saw on the tables. Mr. E. H. Stott had sent in twelve of the finest blooms of Hybrid Perpetual Roses staged this year, also twelve grand Tea Roses (distinct), and a bouquet of Roses. Mr. Sidney A. Herman of St. Anne's-on-the-Sea had forwarded a stand of twenty-four splendid

double and single Tuberous Begonias. From Mr. J. Wilding had been received twenty-four splendid double Show and Fancy Dahlias, a stand of twelve varieties of Pompon Dahlias, and a stand of thirty-six varieties of single Dahlias. He had himself placed before them one bloom of *Hæmanthus puniceus* and a spike of *Eucoris Regi*. Mr. John Eccles' contribution was a magnificent *Dracena*, which had yet to be named. Mr. Stott was awarded a certificate for his exhibits.

#### OROBUS HIRSUTUS.

THIS is a charming member of the Bitter Vetch family with much brighter flowers than is usual amongst its relatives. They are also



FIG. 43.—OROBUS HIRSUTUS.

produced in short racemes on rather long peduncles, and are consequently well suited for cutting. The colour is a pleasing shade of blue, the standard darker and inclined to purple with deeper veins, the wings a light bright shade, and the keel nearly white.

The plant is found in several countries of the Levant, and appears to have been known in Holland a considerable time before it was introduced to this country. In 1835 Don said it was "cultivated in Dutch gardens in the early part of the last century, but is of recent introduction to our own country, and is still rarely seen except in botanical collections." A coloured sketch which accompanies these remarks in "Sweet's British Flower Garden" had been prepared from a plant in the Chelsea Botanic Garden. It is now found in several nurseries where hardy perennials are made a specialty, and the illustration (fig. 48) was prepared from a specimen shown by Messrs. Paul & Son of Cheshunt, with whom the plant succeeds well. Almost any ordinary garden soil suits this *Orobuchus*; it grows and flowers freely, and produces seed abundantly in favourable seasons. It may be added that Don thought *O. hirsutus* was too much like *O. laxiflorus* of Desfontaines to be ranked as distinct, although Decandolle preserves the two names.



#### FRUIT FORCING.

FIGS.—*Early Forced Trees in Pots*.—Examine the roots, and as it is not advisable to increase the pot room, remove a few inches of soil from the base, cutting back the roots, and supply fresh fibrous loam and about a sixth of old mortar rubbish, with a quart of steamed bonemeal added to every bushel of loam, good drainage being provided. Remove the loose surface soil also, and reduce the sides of the ball about an inch, cutting off the straggling roots, and apply the above compost, adding a fourth of well decomposed manure. Ram the soil firmly, afford a good watering, and place the trees where they can have air with shelter from heavy rains and snow, also safety from frost. This is only available for trees that are not in large pots, as those in large pots and that have been stood on brick pedestals to prevent their



sinking with the fermenting materials, require different treatment. In their case all the fermenting materials, whether Oak or Beech leaves, or other substances, should be removed, and all the surface dressing from amongst the roots with a hand fork. Shorten the strongest roots, and attend to the drainage, then place the trees in position on the loose brick pedestals and surface-dress the soil with the compost named firmly rammed into the pots. Supply water to settle the soil, and after this keep the house cool, dry, and well ventilated until the time of starting in November or December. This is a preferable plan to repotting annually, as the trees are less liable to cast their first crop of fruit, and it is not advisable to disturb trees in 18 or 20-inch pots at the roots more than can be helped. In the case of trees that are not in as large pots as desired, or when it is thought desirable to increase the root space, a liberal shift may be given, the sides of the ball loosened with a hand fork, and any straggling roots cut back, also the matted roots in the drainage. Provide good drainage, using the same kind of soil for potting as previously advised, and ram it as hard as the ball, the soil being well moistened before the potting is proceeded with.

*Succession Houses.*—Houses in which the trees have ripened off second crops of fruit must be kept drier as the days become shorter. A little fire heat is necessary, with a free circulation of air to prevent damp. The wood must be full exposed to the full influence of sun and air. Thin all soft and useless wood, and allow the points of the shoots to stand well out to the glass and light. Supplies of water must be discontinued for borders that have been properly mulched and watered up to the middle of this month.

*Lifting Over-luxuriant Fig Trees.*—Gross feeding as Figs are, they are in rich borders apt to become too strong, and in that case prepare for lifting them as soon as the leaves have begun to turn yellow; indeed, it should be attended to as soon as the second crop of fruit is all gathered. Trees in unheated houses that only produce one crop should also be attended to, as well as unfruitful trees, so soon as the wood is sufficiently ripened. Carefully lift the trees and cut back all long roots, reserving the fibres only. Good drainage is necessary. A foot of brickbats with a thin layer of old mortar rubbish over them, and then a couple of feet depth of soil, composed of good turfy loam, a sixth of old mortar rubbish, and a similar proportion of road scrapings, with a bushel of half-inch bones to every cartload of loam, form a suitable compost for Figs. Place it together firmly, so as to insure a sturdy short-jointed growth. Spread out the tree roots evenly, work in the soil amongst them, and make it firm, placing them in layers as they rise, and keep them well up, not covering the topmost more than 2 or 3 inches. The soil may be moist when used, but it ought not to be wet. Give a moderate watering and keep cool and dry. A border 4 to 6 feet wide is very much better than one with a much greater width, and the pit-like borders filled with rich soil, which becomes a sour mass impervious to air, are very unsuitable to Figs. What is wanted is firm sweet calcareous soil that will admit of the free percolation of water and air and retain the manurial elements essential to the production of fine fruit.

*MELONS.—Latest Plants.*—While the fruits are swelling water must be given. Keep the roots active with tepid liquid manure occasionally, and supply ammonia to the atmosphere by damping available surfaces in the evening. Maintain a moderate moisture by syringing in the morning and at closing time, when a light syringing of the foliage may be practised if the weather be bright. Remove all superfluous growths as they appear, and admit air early, or at 75°, keeping the bottom heat steady at about 80°. Provide a night temperature of 65° to 70°, 70° to 75° by day, and 85° to 90° with sun heat, closing sufficiently early to run up to 95° or more. A little fire heat is necessary to insure a circulation of air constantly and prevent the deposition of moisture on the fruit, and no more water should be given at the roots than is necessary to prevent flagging. This will accelerate the ripening, and do much to improve the flavour.

In manure-heated pits and frames no water will be required, but keep the sides well lined and leave a little air on at the back at night. Keep the fruit well raised above the surface of the bed. Any fruit wished to be kept for a time should be cut with a portion of stem and placed in a dry airy room, or, if wanted ripe, in a warm house in the full sun; it ripens better than in cold frames. It must not, however, be cut until full sized and complete in every respect but the ripening.

*CUCUMBERS.—Autumn Fruiters.*—Give every attention to these, affording copious supplies of tepid liquid manure, removing superfluous growth so as to guard against overcrowding, take off male blossoms and tendrils, avoiding overcropping, and do not allow the fruit to hang on the plants after it becomes fit for use. Maintain a genial atmosphere by damping available surfaces other than the plants in the morning, afternoon, and evening, but the plants may be syringed in the afternoon of bright days. Pinch out the points of the shoots one or two joints beyond the show of fruit, looking over the plants twice a week for that purpose, and retain no more foliage than can have full exposure to light. Earth up the roots as the plants advance in growth, only just covering them each time they show at the sides of the hillocks or ridges, the soil being placed in the house some time previously to be warmed before use. All waterings should be of the same temperature as the house.

*Winter Fruiters.*—Pot these off or shift them into large pots, plunging them in a bottom heat of 80° or 90° until the plants are established, then raise them near the glass, maintaining a temperature of 70° at night, 75° by day, with an advance from sun heat of 10° to 15°. The fermenting materials, if such are used for bottom heat, must be in preparation, throwing into a heap, applying water and turning the heap over to induce fermentation and dissipate noxious gases before

making up the beds. For producing fruit in February, a sowing may be made at the beginning of next month if plants have not been raised previously, but this will not be necessary where there are other plants.

In pits and frames the temperature must be maintained by renovating the linings as necessary, and night coverings should be applied to prevent too great diminution of temperature. Give water very carefully, and sprinkle the plants only on bright days. Keep the foliage thin by removing bad leaves and exhausted growths, and close early with as much sun heat as possible.

#### THE KITCHEN GARDEN.

*CAULIFLOWERS.*—In the more southern districts it is not yet too late to sow seed of these with a view to having a number of plants for wintering under glass, but as a rule it will answer better to sow direct on a seed bed where the plants are to remain, protection being afforded either by frames, handlights, or benders and mats. Supposing a two-light frame can be spared raise this on bricks just clear of the ground, and fill in with old heating material, making it quite firm and of sufficient depth to bring the 4 inches of fine soil placed on the top well up to the glass. Sow the seed thinly and broadcast, taking care to keep each variety distinct, and cover with a little sifted soil. The soil being moist no watering will be needed, nor ought the lights to be put on till frosty weather is anticipated. Look well after slugs, keep clear of weeds, and ventilate freely whenever the weather is not severely cold. The sturdy plants raised and wintered in this manner transplant more readily, and do better than any that have been pricked out in frames, or that have been coddled under glass in pots. During ordinary winters a considerable number of Cauliflower plants might be wintered in handlights where some of them are to grow, and also on dry borders and at the foot of sunny walls. The Dwarf Forcing, Early London, Mont Blanc, Walcheren, Dwarf Erfurt, and Magnum Bonum are all suitable for present sowing, and with two or more of these might well be included Veitch's Autumn Giant, especially so if extra fine exhibition Cauliflowers are required early in August.

*ONIONS.*—The spring-raised crops ought now to be well advanced towards maturity, and in many instances are sufficiently ripened to clear off the ground. Those with their tops still green will scarcely ripen properly, though much might have been done towards altering this by a timely twist to the necks. The bulk being ripened, this being when the tops are died down, all should at once be pulled, allowing them to root afresh greatly impairing their keeping properties; but before they are stored a thorough drying, amounting almost to baking, ought to be given. A dry cool empty vinery or empty glazed pit answers well for harvesting Onions, though much may be done by repeatedly turning them on dry paths or boards, and afterwards they should be stored in cool dry sheds. Onions keep best when bunched or roped up, but this work may be done in wet weather. Keep the unripened Onions by themselves, and use these first. If there is the least likelihood of Onions keeping badly, and there be no early Tripolis sown, sow seed at once on a warm border, the quick-growing Queen not being omitted.

*CABBAGE.*—Seed being sown in July or very early in August there ought now to be a number of plants ready to put out, and no time should be lost in doing this. A better site for this crop than a newly cleared Onion bed cannot well be found. This, in addition to being quite rich enough for Cabbage, is also very firm, the plants put out on it growing sturdily and heart in quickly, side leaves being few in number. All the preparation needed is to clear off all rubbish and weeds and then to stir in, not dig, a surfacing of soot or soot and lime, principally for the purpose of destroying slugs and grubs. Carefully lift the plants from the seed beds, and if any are affected by the evil known as amber or clubbing destroy those already showing traces of it in the shape of a knob at the roots, and well coat the roots of the rest with a puddle made of clayey water and soot. Plants that have had their roots puddled usually take the most quickly to their fresh quarters, and the precaution may well, therefore, be taken generally. It is also worthy of note that sturdy starved looking plants obtained from open fields or other not very rich and well exposed quarters make the best progress when moved to rich garden ground, and such are usually had from those who advertise and grow Cabbage plants largely for sale. Any that have been pricked out ought to be lifted with a ball of soil and roots and replanted with a trowel, but those moved direct from the seed beds can be most firmly and expeditiously planted with a blunt dibber. The stronger growers, notably Enfield Market, Battersea, Sutton's Imperial, and such like may be put out 2 feet apart, and the spaces between temporarily filled in with small quick hearting Cabbages or Coleworts, or the former may be planted 18 inches apart each way, 3 inches less answering well for all the smaller or closer growers. Coleworts, of which the London Rosette is still the most generally serviceable, are usually planted in close succession to autumn raised or Tripoli Onions, a distance of 12 inches apart being ample. Failing Onion ground plant Cabbages and Coleworts on any well manured and deep'y dug open plot of ground, taking care to well break this down and to plant firmly. Slugs are most troublesome on lumpy ground, and for this reason it is advisable to thoroughly fine down and to frequently hoe the surface of the beds.

*PARSLEY.*—There are few or no more important crops than Parsley, and no pains should be spared in preparing as much as possible, or abundance for the winter demand. The more "double" or fine curled strains are the least hardy, plants of the inferior or older stocks frequently surviving when the rest have been killed during the winter. The small amount of shelter afforded by fruit trees will frequently save



much Parsley, and a few or many plants might well, therefore, be moved from the open to the spaces between and about somewhat spreading and not very dense Apple and Pear trees. Now is also a good time to fill frames or pits, or any, say, from which Cucumbers or Melons have just been cleared, and more also might be put out in beds where they can be covered with span-roof or other frames. A few dozens of plants, packed in boxes or boxes of rich loamy soil, and eventually placed under glass, will give enough leaves to meet the requirements of a small family during the severest weather, and this precaution ought not to be neglected. In each and every case the strong outside leaves should be gathered from the plants being moved, as they would not keep good till the winter, and their removal admits of the roots being packed somewhat closely together. The leaves formed after transplanting will require but little room, and strongest roots should be replanted not more than 5 inches apart. The bulk of the plants to stand out unprotected should also be thinned out if at all crowded and cleared of all their larger outside leaves, the young or late formed leaves being the hardiest and most serviceable. Cut down any attempting to run to seed.

**WINTER SPINACH.**—Good breadths of early raised plants are very scarce, slugs and grubs having matters much their own way during the prevalence of wet weather. Unless the rows are nearly all destroyed it is not advisable to hoe up what plants are left, the better plan being to either transplant wherever possible or else to sow more seed where the largest gaps occur. Weeds should be kept down by occasional hoeings, stirring in a little soot and lime, also getting rid of numerous insect pests. If a good breadth of ground, the preference being given to a gentle slope to the south, can be got into a finely divided state, more seed may be sown with every prospect of a serviceable crop of Spinach resulting some weeks before the earliest spring sown crops are available. Either the round or prickly seeded forms are suitable for present sowing, one being quite as hardy as the other. If the Spinach Beet is very strong, remove many of the older leaves, as these would not cook well later on, only the succulent younger leaves answering as a substitute for the true Spinach. Masses of New Zealand Spinach temporarily protected from early frosts will continue serviceable for another month or more.

#### PLANT HOUSES.

**Cinerarias.**—Flower spikes now showing may be allowed to expand. It is useless to place the plants into larger pots. Seedlings of the same sowing that are not showing flower may have pots 2 inches larger than those they now occupy. By providing abundance of air and shade from strong sunshine useful plants will be secured. Later plants should be repotted from time to time, as they need more root room. A good number of those still in the seed pan can be pricked out into boxes or singly into small pots, for these will prove useful in spring if cared for well during the winter months. Too much attention cannot be paid to late plants, for they often prove more useful than those grown for flowering earlier in the year. Watch for aphides, and if they appear fumigate promptly.

**Zonal Pelargoniums.**—Insert cuttings at once in 2½ and 3-inch pots to secure plants for flowering early next year. Cuttings will strike freely in any position under glass at this season of the year. Those required for winter flowering should not be pinched again, but remove the flowers as they appear, also decaying foliage. Give them abundance of room so that air and light can reach every part. They are very soft, having grown too luxuriantly to flower well. If the weather prove wet and dull they will be improved by removal under glass, either in a cool house or in cold frames, where heavy rains can be thrown off and the air kept on the dry side. This assists wonderfully in hardening and ripening their wood, without which they will not flower, or continue to do so satisfactorily for any length of time.

**Petunias.**—Cuttings of good varieties may be inserted and rooted at once, then transferring them singly into 2½-inch pots. Pinch the leader out when 2 inches high, and continue to stop the plants until bushy little specimens are formed. Winter these on a shelf close to the glass where the temperature does not fall below 45°. They will move slowly under these conditions, and be ready for 5-inch pots early in January. Plants subjected to this treatment will flower early during the spring, and prove most useful for conservatory decoration.

**Hydrangeas.**—Those that have been rooted with buds should be fully exposed to light and air. If they are well hardened place them in a sunny position outside; if not, and they are not very well ripened, fully expose them to the sun in the greenhouse. Plants of *Hydrangea paniculata grandiflora* that flowered in pots may be stood outside. They will harden and ripen their wood and be in good condition for flowering another season. Whether they flower profusely or the reverse, depends almost entirely upon the ripened condition of the wood.

**Heliotropes.**—Plants in 5-inch pots and growing outside should not be pinched after this date, the flowers only being removed. Standards or pyramids that are grown under glass may be pinched once more, and the shoots trained as they grow. Feed all plants that have their pots full of roots with weak stimulants every time they need supplies of water. It is necessary to remove the flowers as they appear from those grown inside.

**Kalosanthus.**—Remove shoots that have failed to flower, and insert five or six together in 5-inch pots. If an increase of stock is needed the lower portions of the stem may be inserted; they branch freely, and with one good season's growth will flower profusely. They root quickly in a close moist atmosphere. Place them on a shelf close to the glass. If ripened and kept cool they should flower next season. The old plants

if required can be cut close back and allowed to break into growth under the conditions that have been advised for French Pelargoniums. Those for next season's flowering are better outside than under glass until the end of the month, when they must occupy a light airy position. Do not give too much water at their roots, and if the atmosphere is kept dry all the better.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### AT THE MOORS.

ON September 8th the mists, so much longed for as indicating fine weather, crept slowly over the hills, and the next day, although it rained, the wind had lulled, and being warm the bees worked well, although the Heather was much destroyed by the storm of rain, wind, and hail of September 6th. Happily there are many varieties, early and late, which give a chance of a yield of honey from the 1st August up to the middle of September, or sometimes later; so that while writing the day is promising to be fine, and, if we except February, the first fine summer-like days we have had for twelve months. This is exactly to a day as it was in 1890, and it has proved to be almost similar to 1845.

After the storm abated, and up to September 10th, the honey so abundant on the 8th left the flowers, so there were two days of scarcity, and the weather being fair robbing was prevalent. To stop it taxed my efforts not a little. I contracted the entrance of every hive to about 1½ inch. In one case I stopped it by smearing the alighting board of the attacking hive with carbolic acid, and several others with damp earth. All varieties were alike guilty. The Pronics were, however, the most determined robbers I ever witnessed, insinuating themselves into the richest and strongest hives without opposition.

I know this experience differs from that of "A Hallamshire Bee-keeper," but he has probably not had a similar circumstance. They are on trial, and the concealment of facts would be akin to telling an untruth, so we must be truthful and honest, that your readers may understand thoroughly. I do this the more cheerfully as "A Hallamshire Bee-keeper" asked me to give my experience candidly, and I am sure it will be of more value than the evidence so common amongst many who have no experience of what they write.

I should be pleased if "A Hallamshire Bee-keeper" would assist in making an interesting experiment—viz., to weigh one or more of several varieties with filled honey sacs; or one or more bees before and after being filled with honey. My reason for this is, it will be remembered, I made some observation about the smallness of these Pronics, but since then I have been astonished at the great size of their honey sac. Even in this bad year they will deceive me if they do not surpass many others. It will not be long now before the hives on trial are tested by the balance, which will to some extent decide the honey-gathering qualities of the smartest bee in appearance of any yet imported. I consider the robbing propensity is the fault of the season and not of the bees.

The best hives at the moors are old swarmed stocks having young queens, and the stores and contents of the hive ample and in good condition. Although the season has been the opposite of good, and we shall be unable to report extra heavy hives, on lifting the hive by one side I was astonished at the weight some have reached. Some people in town and country have strange ideas of bees. "What do you bring the bees to the Heather for?" inquired one, the reply to which was Honey; and "When you take them away will you take Heather with you to feed them in the winter?"

#### CLEARING SUPERS.

"An Old Bee-keeper" writes as follows:—"Perhaps 'A Lanarkshire Bee-keeper' would explain more particularly his



method of clearing supers with carbolic acid paper. Is it to be applied wet or dry? If applied wet, and it happened to touch the comb, it would, I fear, give a most disagreeable odour. In some kinds of section crates, where separators are used, it would be difficult to insert the pieces of paper in a wet state, and I suppose the separators would have to be removed in either case. I agree with 'A Lanarkshire Bee-keeper' in disliking separators, but as they are generally used this difficulty must be met."

Clearing supers of bees by the aid of carbolic acid is the most cleanly and most expeditious method ever invented. Use brown paper of medium thickness, and preserve it for future use. Take a feather or brush, dip it into the acid, painting a little on both sides of the paper, which absorbs the acid but leaves the odour, and when slipped between the combs does not stain them in the slightest, and causes the bees to retreat downwards instantly before they have time to break the seals, or to soil the combs. To facilitate the process lay a square of carbolised paper on the top of the super. When bees are managed properly there is no necessity for separators, they are a great hindrance to the rapid filling of sections, and one of the things that ought not to have been introduced into the apiary. When the operator is an adept it is unnecessary to have a paper for every seam, but novices would do well to employ the full number.—A LANARKSHIRE BEE KEEPER.

#### POSITION OF THE FRAME HIVE.

It is important that the hive into which the bees are to be put should stand in exactly the same position as the old skep of bees did before they were driven, that the bees returning from their flight may not be lost. To do this the old stand must be removed, and the bees in the skep placed on one side for a few minutes. Great care must be taken that when fixed the hive must be perfectly level across the frames, as unless the frames hang true the combs will not be built in them and allow of their easy removal singly, but would be joined to the nest, and do away with the object for which frames are used.

#### HIVING.

Everything being ready, the hive in its place, the roof taken off, and quilts removed, exposing the frames, put the skep in which the bees are on the frames, then with the open hands slap the skep hard on both sides at the same time, and the bees will fall on the frames. Raise the skep quickly, give it another shake to dislodge any bees that remain in it, and before they have time to recover the shock put a cloth over the top of the hive and bees, and pull it down over the hive gently. In a short time all the bees will have run down and clustered between the frames.—JOHN M. HOOKER.

#### PRICES OF PUNIC QUEENS.

IN the Journal for September 10th (page 234) "Spread Eagle" wants to know how I could afford to advertise Punic Queens at 2s. 6d. The advertisement says, "Virgin Queens," these two words being in the largest black type, and if your correspondent does not know the difference between a virgin and an imported queen he has yet much to learn. In response to the advertisement I sent out nearly 2000 queens, which were safely introduced, and when spring came there was not one weak or dysenteric stock from them. I sent another advertisement last spring to the managers of the "B. B. J." and "Record," stating these facts, also offering virgins again for the past season at 2s. 6d. each, but they refused to insert it or give the reason for not doing so, returning the money enclosed to pay for it. I then turned my attention to America, and have been sending virgins there with such success that next year I shall be able to dispose of all I can rear.—A HALLAMSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

T. S. Ware, Tottenham, London.—*Catalogue of Carnations, Pæonies and Bulbs.*

Frank Dicks, 66, Deansgate, Manchester.—*Catalogue of Bulbs.*

Ant. Roozen & Son, Overveen, near Haarlem.—*Catalogue of Bulbs.*

Daniels Bros., Norwich.—*Catalogue of Bulbs.*



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Matricaria and Pansies (W. Innes).**—Your flowers only arrived just in time for this brief reference. The Matricaria, Purity, is pure and good, and the Pansies very effective.

**Double Violets (J. L. A.).**—It is impossible to name a Violet from a flower crushed in a letter. Yours is a dark form of the Neapolitan, as are Marie Louise and De Parme, the latter a trifle the darker. Comte de Brazza is white or nearly so.

**Electric Garden Engine (Maker).**—We are obliged by the information that pumps worked by the electric current are obtainable; but as we presume the manufacturers of them will not give the proceeds of sales to charities we can scarcely be expected to advertise them gratuitously.

**The Manresa Vine (Lankhills).**—If you write to Mr. M. Davis, Manresa House, Roehampton, we have no doubt he will readily afford you an opportunity of inspecting the Vine. Putney Station is within two miles of Roehampton, and there are usually a number of cabmen waiting for "fares." We think this year's crop is cut from the Vine and sold.

**Fasciated Lillium (W. Ainslie).**—The photograph you send of a Lillium auratum, with fifty-eight flowers in a cluster, represents a case of fasciation. It is singular that we have had a stem with exactly the same number of flowers from a plant growing in a border. Yours has been grown in a pot, and has evidently received good cultural attention. A similar case has been illustrated in our columns.

**Large and Small Exhibitors of Roses (C. G.).**—There is not the faintest shadow of foundation for the charge of "boycotting" you bring against this Journal relative to communications that have been received on the above subject. Every letter we have received on your side of the question has been inserted, and your allusions to "hushing up" are wholly misplaced. It was intended to publish your contribution, but you have "boycotted" it yourself by your intemperate tone, and it will therefore not now appear.

**Fungus on Pears (A. B.).**—The cracked fruits you have sent are seriously infested with a fungus (*Fusicladium*), and nothing that you can apply to them now will be of benefit. All such fruits as you have sent should be burned. The trees do not have the support they need. The light gravelly soil is too poor and probably too dry for Pears, the fruits instead of swelling freely becoming harsh, and the cuticle splits. Copious supplies of liquid manure in winter would enrich the soil, and thick mulchings of manure in summer retain moisture in the earth for the support of the trees. Root-pruning judiciously and some fresh soil added might be of great benefit, but in the absence of knowledge relative to the age, growth, and size of the trees we cannot give definite advice on procedure.

**Plum Trees Gumming (J. B.).**—There is no remedy short of sound, healthy, matured growth in suitable well drained soil. By all means cut back the affected parts and cleanse the stems, but if the soil is not such as to encourage healthy root action the evil will return. No one can say what your soil needs without knowing its nature. Perhaps it needs draining. If a black rich mass of humus lime would do good, cow manure and soot probably do harm. We have seen both Rivers' Prolific grow clean and fruitful in some gardens and "gum to death" in others. If your Diamond Plums gum it is not likely that the varieties named would be free if grafted on them. Grow the most extensively those varieties which succeed the best in your soil, and if you like to describe its nature so that we can comprehend it we shall be glad to return to the subject.

**Yellow Tomatoes (T. Crosswell).**—Many persons prefer these, on the ground that they are more delicate in flavour than most of the red varieties. The fruits you send of Suttons' Golden Perfection are very handsome—smooth, large, uniform, and clean. We have only one fault to find with them, and this you will perhaps regard as a compliment—namely, they are too large. Very large Tomatoes are like huge Turnips.



and some other products, their bulk consisting mainly of water. The smaller of the fruits you have sent are excellent in quality, the larger being relatively inferior in proportion to their size. We have found the same difference between gigantic and comparatively small fruits of other varieties of Tomatoes we have been testing of late, the very large fruits in every case being inferior to the smaller. We omitted to say that the large fruits are attacked with the fungus, the small are not, nor is this distinction uncommon. It is by forcing growth for large fruit that many fungoid attacks have been invited.

**Streptocarpus Culture (H. K. V.).**—The reply to your question has been accidentally delayed. Your flower is one of the many varieties of *Streptocarpus Rexi*. They are pretty dwarf growing plants, and require warm greenhouse treatment. They are readily raised from seed, and if raised early and grown well they flower at the end of summer. Grown indifferently the seedlings may not flower until the second year. Propagation is also effected by division in spring. The plants require resting in winter, not allowing them to become dust dry at the roots, but keeping on a rather moist base, where they will receive a little moisture without making the soil wet, and the temperature ought not to be less than 50°. When growth recommences water should be given more freely. They grow well in light rich soil, preferably fibrous loam two parts, and one part of leaf soil with a sixth of sand. Seedlings are sometimes kept gently moving through the winter from a summer sowing of seed, and these make a fine display the following season. The plants do not require a large amount of pot room, and take up little space. They are fine for margins to plants of larger growth. We have seen them luxuriating planted close to the edge of the path in the succulent house at Kew, where they formed an attractive border.

**Ammoniacal Carbonate of Soda Solution and Tomatoes (Tomato Grower).**—A gardener of wide knowledge and great experience sends the following in reference to the subject of our reply to "C. B. A." last week, and appears to meet your case:—"To be effective the solution must be used over the whole plant, fruit included, distributing it in a fine spray so as to coat every part with a thin film, and in advance of an attack by fungi so as to destroy the germs. The small quantity of carbonate of copper is not found deleterious to the fruit, that sprayed with it being very extensively used in the United States of America for canning. It is assumed that the plants will be washed more or less by rain, and that those under glass will be syringed. This is in substantial accordance with our reply, which had to be of the briefest character in consequence of the question arriving too late to be satisfactorily dealt with. When the solution is used, as undoubtedly it should, "in advance of fungoid attacks," the fruits are not in an advanced stage; but in September they are ripening, and some of them, it may be presumed, would be used almost immediately after being sprayed with the copper solution. We should prefer not to eat those fruits with the copper "film" on them, American customs notwithstanding; and we have yet to learn that American growers of Tomatoes and Apples spray the ripening fruits. Their rule is to take action sooner, and they are wise. It is too much the custom in England to wait too long, and thus give the enemies of plants an enormous advantage. When the disease has taken possession of Tomatoes or Potatoes, or, in other words, when the mycelium of the fungus becomes established in their tissues, we have not much faith in the efficacy of any applications, and we should not eat Tomatoes that had been sprayed when ripening with the solution in question. We are all the same obliged to our correspondent for his suggestive remarks.

**Planting Crocuses in Grass (F. J. B.).**—A narrow, gouge-like trowel, about 1½ inch between the edges of the blade, which should curve so as to form in cross section a half circle, answers very well for making the holes, the trowel being inserted 3 or 4 inches deep in the turf, and a similar cut made on the opposite side admits of the soil being readily removed by a twist and upward movement of the trowel. This makes a hole about 1½ inch in diameter, sufficing for the largest bulbs, and a little soil being introduced the Crocus may be inserted crown upwards, and the hole filled level with fine soil, or if the natural soil is light or easily broken with the trowel it may be used for filling up the holes, and made moderately firm. Where large quantities have to be planted it pays to have a gouge made at a blacksmith's, 1½ inch wide at the lower end, and 1¼ inch across at the upper end, the gouge being 3½ to 4 inches deep, welded to a socket, and an ash shaft, with a hilt or box handle fitted into the socket, forming a good hold for the hand. A tread should be formed on the "hand" side of the gouge corresponding to that of the person using the implement, and its lower side level with but clear of the opening of the gouge. To use this a person has only to insert it into the ground at the place desired, give it a slight twist after driving it down to the tread with the foot, and withdraw it, proceeding to the next place, and the gouge being forced into the ground perpendicularly the pellet of the previous hole will be expelled, and the implement kept in working order. In soft ground holes are readily made with an iron shod dibber, or a solid iron point may be used formed in the shape of a T, the cross piece or upper part of the T forming the tread, and with a socket and a handle the implement is complete. It can be forced into the ground up to the tread, and the Crocuses inserted in the holes as advised. A little fresh good soil for them to rest on is very desirable, and in some lawns indispensable.

**Names of Fruits.**—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to*

*be named, it has been decided to name only specimens and varieties of approved merit, and to pass the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*J. Taylor*).—Plums.—Young wood should always be sent with Plums for showing whether it is smooth or downy. 1, Prince of Wales; 2, Pond's Seedling; 3, possibly Nectarine. Pears.—1 resembles Beurré Diel; 2, Williams' Bon Chrétien; 3, Beurré Capiaumont; but the specimens are not fair typical samples. (*J. Hartland*).—1, Worthless; 2, Longville's Kernel. (*Pennell & Sons*).—The Apples were mealy, and therefore the quality could not be tested. Possibly the variety may be the Sack and Sugar: you will find it described in Dr. Hogg's "Fruit Manual," which is no doubt in your library. The Pear resembles small samples of Uvedale's St. Germain. (*J. Austen*).—A fine specimen of Red Astrachan. (*N. C.*).—Pear, Beurré Giffard; Apple, Worcester Pearmain.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*N. C.*).—1, Flowers withered, therefore undeterminable; 2, *Retinospora ericoides*; 3, *Eupatorium ageratioides*; 4, *Rudbeckia triloba*. (*G. Meyrick*).—*Hibiscus syriacus*, of which there are varieties with darker flowers. (*Somerset*).—The name of the Grass is *Alopecurus agrestis*. We agree with you that properly named collections are interesting and approve of your endeavour. (*F. J. R.*).—1, *Rivina laevis*; 2, Flowers all withered; 3, *Viburnum Lantana*; 4, *Crataegus pyracantha*.

#### COVENT GARDEN MARKET.—SEPTEMBER 16TH.

MARKET heavily supplied, with prices low.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, ½-sieve .. ..	1	0	to	3	Oranges, per 100 .. ..	4	0	to	9
Cobs, Kent per 100 lbs. ..	30	0		0	Peaches, per doz. ....	1	0		6
Grapes, per lb. ....	0	6		1	P'ums, ½-sieve .. ..	1	0		8
Lemons, case .. ..	15	0		20	St. Michael Pines, each..	3	0		8

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus, per bundle ..	0	0	to	0	Mushrooms, punnet ..	0	8	to	0
Beans, Kidney, per bush. ..	2	0		3	Mustard & Cress, punnet	0	2		0
Beet, Red, dozen .. ..	1	0		0	Onions, bunch .. ..	0	3		0
Carrots, bunch .. ..	0	4		0	Parsley, dozen bunches ..	2	0		3
Cauliflowers, dozen .. ..	2	0		3	Parsnips, dozen .. ..	1	0		0
Celery, bundle .. ..	1	0		1	Potatoes, per cwt. ....	3	0		4
Coleworts, doz. bunches ..	2	0		4	Salsafy, bundle .. ..	1	0		1
Cucumbers, doz. ....	1	0		4	Scorzonera, bundle .. ..	1	6		0
Endive, dozen .. ..	1	3		1	Shallots, per lb. ....	0	3		0
Herbs, bunch .. ..	0	3		0	Spinach, bushel .. ..	5	0		6
Leeks, bunch .. ..	0	2		0	Tomatoes, per lb. ....	0	2		0
Lettuce, scotch .. ..	0	9		1	Turnips, bunch .. ..	0	0		4

#### AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms not plentiful in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	Marguerites, 12 bunches	2	0	to	4
Asters, doz. bunches ..	3	0		4	Maidenhair Fern, dozen				
(French) doz. bchs. ....	9	0		12	bunches .. ..	4	0		9
Bouvardias, bunch .. ..	0	6		1	Marigolds doz. bunches ..	1	0		2
Carnations, 12 blooms ..	0	9		1	Mignonette, 12 bunches ..	1	6		3
Carnations, doz. bunches ..	3	0		6	Myosotis, dozen bunches ..	2	0		4
Chrysanthemums, dozen					Pansies, dozen bunches ..	1	0		2
bunches .. ..	4	0		9	Pelargoniums, 12 bunches	4	0		9
Chrysanthemums, dozen					" scarlet, 12 bchs. ....	3	0		4
blooms .. ..	0	9		3	Primula (double) 12 sprays	0	8		1
Dahlias, doz. bunches ..	1	6		4	Pyrethrum, doz. bunches ..	2	0		4
Encharis, dozen .. ..	2	0		4	Roses (indoor), dozen ..	0	6		1
Gardenias, per doz. ....	1	6		4	(mixed), doz. bchs. ....	2	0		6
Gladiolus, dozen bunches ..	4	0		8	" Red (English) per				
" per 100 spikes .. ..	5	0		7	dozen blooms .. ..	0	9		1
Lapageria, 12 blooms ..	1	0		3	" Tea, white, dozen ..	1	0		2
Lavender, dozen bunches ..	4	0		5	" Yellow, dozen .. ..	2	0		4
Lilium longiflorum, 12					Sweet Peas, doz. bunches ..	2	0		3
blooms .. ..	2	0		4	Sweet Sultan, doz. bchs. ..	2	0		4
Lilium (var.) doz. blooms	1	0		3	Tuberose, 12 blooms ..	0	3		0

##### PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralia Sieboldi, dozen ..	6	0	to	12	Ficus elastica, each. ....	1	6	to	7
Arbor Vitæ (golden) doz.	6	0		8	Foliage plants, var., each	2	0		10
Asters, dozen pots .. ..	3	0		6	Fuchsia, per doz. ....	4	0		6
Begonias (various), doz.	4	0		9	Heliotrope, per doz. ....	4	0		6
Campanula, various, doz.	6	0		12	Hydrangea, per doz. ....	8	0		12
Chrysanthemums, per doz.	6	0		9	Lilium, various, doz. ....	18	0		30
Cockscombs, per doz. ....	3	0		6	Marguerite Daisy, dozen	6	0		12
Coleus (various), per doz.	3	0		6	Mignonette, per dozen ..	8	0		6
Dracæna terminalis, doz.	24	0		42	Myrtles, dozen .. ..	6	0		12
" viridis, dozen .. ..	12	0		24	Palms, in var., each. ....	2	6		21
Euonymus, var., dozen ..	6	0		18	Pelargoniums, per doz. ....	6	0		9
Evergreens, in var., dozen	6	0		24	Pelargoniums, scarlet, doz	2	6		4
Ferns, in variety, dozen ..	4	0		18					





## FARMS IN HAND.

THIS is the term applied to farms given up by tenants, and which for some reason or other have not been relet, but have fallen upon the landlord's hands, and as this happens at Michaelmas attention may now usefully be given to the treatment of such land, as it not unfrequently falls to the lot of the home farmer to take up farm after farm as they so fall in. When he has this extra work coming upon him every effort should be made to push on autumn work on the home farm, so that the vacant farm may have prompt attention as soon after Michaelmas as possible.

No rules can be framed for such an emergency, but the farm falling in hand must be treated solely upon its merits, and not at all by line and rule. If it should be a dairy farm with the land chiefly in grass, the work of reclamation will be comparatively easy. But it is quite exceptional for such farms to be given up; it is the poor arable farms that are generally as foul as they are poor, which fall in hand, and no light undertaking is it to bring them into thorough cultivation again. Let the home farmer bear this well in mind, and let him insist upon having sufficient means for the undertaking. If he foolishly agrees to try and do this extra work with the home farm staff of men and horses, he will fail, the home farm will be neglected, and in the end he will be blamed. No, it will be quite enough for him to have this extra work upon his hands, and if he is a wise man he will at the outset make it clear to the landlord or the agent that the new farm must have sufficient implements, horses, and workmen for its requirements. The outgoing tenant will most probably have an auction sale, at which something may be purchased for stocking the farm. But this is very doubtful, both live and dead stock generally being of the worst possible description, and it is mere waste of money to purchase a lot of old implements that require repairing at once. We once took over a farm upon an estate which came under our management, and the first year the wheelwright's bill for repairing old implements was nearly £50. The agent who stocked the farm was an auctioneer who was always picking up "bargains" at sales, and he left behind him at several farms such a collection of them as we hope never to meet with again.

The best rule in such a case is to purchase as few implements as possible, and to have them quite sound and good. Such things as a seed drill, extra harrows, rollers, &c., can always be spared from the home farm; but ploughs and carts must be had. Do not purchase old horses; younger animals are expensive, but they must be had. Using from fifty to sixty horses, it has long been our rule to breed enough young stock to fill vacancies and to meet emergencies, and so we have always been able to stock any farms falling in hand. If occasionally it is found that our surplus horse stock exceeds due bounds there is no difficulty about the disposal of such sound home-bred stock. We never send them to auction sales, but invite one or two respectable dealers to inspect our sale draft, telling them our price, and the matter is settled quietly. It is, of course, well to remember that a dealer never can bring himself to give the price asked by the seller, and a sufficient margin must be allowed for the dealer's "beating down."

It will most probably be found that the only clean land upon the farm consists of a bare fallow, for which a heavy charge for tillages has been paid in the valuation. This must be turned to account for winter corn, and Wheat and winter Oats sown at once,

with a dressing per acre of 1 cwt. sulphate of ammonia and  $\frac{1}{2}$  cwt. each of steamed bone flour, mineral superphosphate, and muriate of potash. This is a safe autumn dressing, and we may feel certain it is required, as the land if clean is very certain to be poor, and we must proceed upon the principle of judicious storing of the soil with fertility. In spring the whole of the winter corn should have mixed seeds sown for a temporary pasture of five or six years' duration, and the labour on that portion of the farm will be reduced permanently.

If there are any root crops they should be clamped for folding with sheep on the land for spring corn, also to be laid down to temporary pasture, and then we must set to in real earnest at the remainder of the land to get it clean at once if possible. But this is a matter dependant upon weather, and we can only resolve to do all we can in autumn, and to go on in spring as weather permits. In any case the work will be expensive, and we must resolve to keep as much of the land as we can under fodder crops, and so keep down expense and gradually improve it.

## WORK ON THE HOME FARM.

A glorious spell of fine weather has come at last, and it has required some self-control to go softly and not cart the corn too soon. The grain is not only soft, but very much of the husk is rotten, and as it dries much corn must be shaken out in the carting, however carefully it is handled. It is at best a good harvest spoil, and the only thing left to do is to make the best of it now, and save all we can. A high price for a good sample of Wheat is now a certainty, and we doubt not plenty of good samples will be forthcoming, as the damage generally proves less than was expected. Malting Barley will be in high demand, and good samples must not be parted with lightly, for they should be very profitable, and we do not intend Mr. Middleman to have too great a picking. He thrusts himself in between grower and consumer simply because we allow him to do so. We say, Sell to the malster and not to the middleman; it may mean an addition of 2s. per quarter to your profits, and why should you let that slip through your fingers?

Do all that is possible to turn corn that runs out upon the land to account by driving every sheep and pig you can upon the stubbles. Store lambs might just as well be pushed in now as not, and every old ewe drafted for fattening should be forced upon the fallen corn. They will eat it freely enough, and the only thing to guard against is over-feeding.

We may have a fine autumn after all, and if so with the soil so softened by rain autumn tillage will be easy work, and should be pushed on with immediately after the corn is cleared off, and the fallen corn eaten. It will be as well, therefore, to clear one stubble thoroughly before turning stock into another in order that plough and cultivator may be at work as soon and as briskly as possible. Do not lose the golden opportunity of fine autumnal weather, for it means early sowing next spring, and a dry open condition of the soil, which can only be had by autumn cultivation and full exposure to frost, snow, wind, and rain all winter. Get the soil clean, and then throw it up to the action of the air, if you would have a good and early seed bed.

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

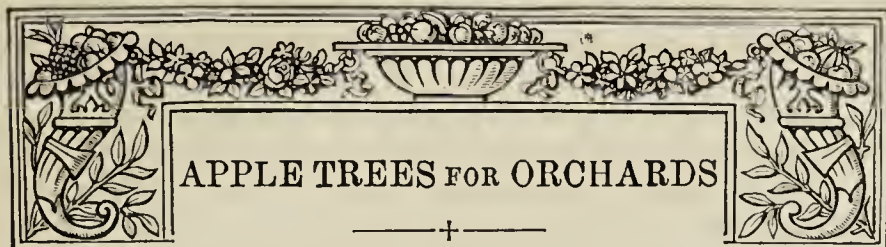
DATE.		9 A.M.					IN THE DAY.				Rain
1891. September.		Barometer at 32° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Temperature.		Radiation Temperature.		
			Dry.	Wet.			Max.	Min.	In sun.	On grass	
		Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Sunday .....	6	30.080	59.4	53.6	S.W.	56.5	65.9	48.8	109.3	44.7	0.071
Monday .....	7	30.082	57.6	52.9	N.W.	56.8	67.2	51.4	98.4	47.1	—
Tuesday .....	8	30.153	62.9	58.8	S.	57.2	74.2	55.2	110.9	52.3	—
Wednesday ..	9	30.204	57.9	57.0	Calm.	57.8	79.6	49.7	116.9	45.4	—
Thursday .....	10	30.193	64.1	61.6	E.	58.1	78.2	52.5	109.0	46.3	—
Friday .....	11	30.155	64.3	61.2	N.E.	58.2	79.2	50.4	113.8	45.2	—
Saturday ....	12	30.140	63.7	60.4	N.E.	58.5	80.0	51.9	113.2	45.9	—
		30.129	61.4	57.9		57.6	74.9	51.4	110.2	48.7	0.171

## REMARKS.

6th.—Cloudy throughout and rain at night.  
 7th.—Brilliant early; haze and thin cloud after 11.30 A.M.; overcast after 4 P.M.; spots of rain at night.  
 8th.—Bright and warm.  
 9th.—Slightly foggy early, bright and warm after 9.30 A.M.  
 10th.—Bright and warm.  
 11th.—Bright and warm.  
 12th.—Bright and warm.

With the exception of a little rain on Sunday night, a very fine warm week—one of the extraordinarily few weeks (3) in which a temperature of 80° in the shade has been reached.—G. J. SYMONS.





THAT the subject of planting Apple trees to form orchards will occupy more attention in the future than it has done in the past no one will for a moment dispute. The societies formed with the object of encouraging fruit growing, not only as a pleasure but as a means of procuring a profitable investment for capital, are inducing many persons to plant fruit where land is at command from which the agricultural returns do not warrant a continuance of the methods at present pursued. No doubt there are difficulties in the way of the tenant farmer at present which prevent his carrying fruit culture to any considerable extent.

If Apple growing cannot be made to pay under good culture I am certain it cannot when such work as planting the trees is carried out in an indifferent manner. The selection of varieties is most important. Where many persons make a mistake is in having too many. Much better is it to plant duplicates of known and proved sorts than to extend the list of names. Another important point not to be lost sight of is that of selecting those suitable for the soil. Some will succeed in one class of soil, while others will barely exist in the same place. It is far more a question of soil than locality as regards the varieties that will succeed or otherwise. Experience or information from a reliable source as to the adaptability of any kind should guide the planter in making a selection that is likely to give satisfaction. The soil can be divided into two sections—heavy and light—the former being much the more difficult to manage, and one in which fewer varieties will flourish. If the soil is naturally unsuited for certain kinds it is useless to plant these, no matter how well the preparation of the soil and subsequent planting are attended to by adding a choice compost to start the trees into growth. They may grow fairly well for the first few years until the roots travel beyond the prescribed area originally prepared, but then the trees commence to “go back,” the most prevalent sign being the decay of the young shoots during the winter following their growth; the trees become thickly coated with lichen, and failure results. Few varieties refuse to flourish in light soil if rightly managed, therefore those in possession of this class of soil have an advantage over others in the matter of selection.

Another point which needs especial study is the site of the orchard. It has been said, Never plant Apple trees in a valley. The reason is obvious; spring frosts cause so much damage to the crop of blossom, coming, as it does, very often when the trees are in full bloom. A high position is more favourable to success provided the necessary shelter from winds is assured. That from the south-west is considerably the worst for the Apple crop, much of which is spoilt through no other reason than being blown from the trees through inadequate protection. Shelter is necessary on three sides of the orchard—south-west, north, and east, but should be so arranged that the trees providing the shelter do not shade the Apple trees below. It matters little what kind of protection in this respect is afforded, but nothing is better than a belt of tall deciduous trees placed at some distance from the orchard. Shelter derived from trees on the south-western side of the orchard preserves the fruit on the trees, while that on the eastern side protects the tender shoots and blossom in spring when blighting winds prevail sometimes two or three weeks at a time in elevated situations.

It is useless to plant Apple trees on land that is naturally wet

without first draining it, the roots cannot withstand the continual moisture which they, of necessity, must receive in such a site. Some kinds of soil appear wet and retentive, but at the same time are not so in reality. Soils largely composed of clay, through which the surface water cannot penetrate, need drainage, but where water does not remain on the surface beyond a short time owing to the prevalence of stones in the soil, which act as a conductor for surplus water, draining would be a waste of time. All that is needed in this case is thorough trenching of the soil in which the tree is to grow. What I term a profitable way of orchard planted trees is to have a combination of Apples and grass. The latter if made into hay will provide all necessary labour the Apple trees require; during this time the trees will be growing into money. No doubt a better combination could be arranged, such as growing Gooseberries, Strawberries, or Raspberries between the rows of Apple trees, but these crops require a good deal of labour and attention, more than some would care to expend on them. Besides, grass affords a readier means of getting about among the trees than where all the soil is under cultivation, especially if it be of a strong nature. Lose no time in ordering the trees, much is gained by doing this early, better trees are obtained, which is important; there is no advantage in deferring longer when once a selection is decided upon. I append a list of varieties suitable for heavy soils, classifying them in a simple manner, so that if the list is too long it can be reduced by making a selection, commencing at the top, as I have placed the best in rotation according to my opinion.

The preparation of the stations in which the trees are to be planted requires some thought. All these should be ready at least six weeks before planting, to allow time for the soil to settle down sufficiently. Some persons do not think about having the holes ready for the trees when they arrive, the consequence is the trees have to be laid in by the heels perhaps for two or three weeks; in some instances the trees are not taken from the bundles. The result of such carelessness is the roots in the centre turn mouldy, the fibrous parts are mildewed and useless. Each should be laid separately in a trench, covering the roots with fine soil to maintain the roots in a fresh condition until they can be planted, which, if the weather is suitable and all is ready for their reception, ought not to be delayed a single day longer than is absolutely necessary.

Where the soil is of a light description the work is simplified, but where the soil is heavy, retentive, and cold much labour and thought must be employed to command success. As I have to deal with a soil most unsuited for planting any kind of fruit trees in its natural state I will describe the method here pursued in planting Apple trees for orchard growth. We planted 1100 trees, standard and bushes, last November, and did not lose a single tree. For a permanent orchard on grass I advise that standards be planted 30 feet apart, with bush trees alternately, and a full row of bushes between each two rows of standards in addition, which will allow 15 feet of space between, requiring forty-eight standards to the acre, and 150 bushes. In planting some fields the number of trees required will vary; where the boundary is not a straight one it will be found that more, or it may be less, will be needed; the rows not finishing off in the same order, spaces will be left, in which extra trees can be planted as a saving of space. The above numbers give a good idea of what will be needed.

The bushes will not be interfered with by the standard trees for at least fifteen years, and perhaps not then entirely. Some varieties, which are not so strong in growth, would succeed at half the distance for several years; for instance, bushes of Lord Grosvenor, Stirling Castle, Irish Peach, and Worcester Pearmain might be planted  $7\frac{1}{2}$  feet apart if the most is to be made of the land—however, this is a matter for personal convenience.

The prices of trees vary according to quality and the variety. Splendid bushes, which will fruit the first year if required, can be



Bought for £10 per 100, and perhaps less, although nothing is gained by buying the lowest priced trees; standards about £12 10s. per 100. These prices are for the best trees of course. Special terms may be made when large numbers are required. In planting an orchard, whether large or small, some method should be pursued so that the trees will be straight in the rows in all directions—not merely from one side to the other, but the cross lines too ought to stand in order, not merely for appearance but for convenience in removing the hay or cleaning the ground with the horse hoe should it be decided to banish the grass crop after a few years as giving less trouble. The best plan is to mark out the outside rows first, using two sorts of stakes—long ones for the standards and shorter for the bushes. If the extreme outer rows are measured correctly, and the width from row to row between be accurately noted, the rows diagonally are easily adjusted by taking a sight from one outside row to the other, fixing the stakes accordingly. It is much the best plan to mark all the stations before commencing to dig out the holes. This latter can be done by arrangement with local labourers, according to the kind of soil to deal with; where that is heavy, stony, and bad “moving” from 3d. to 4d. per hole is a fair price, and less according to the nature of the soil. If holes 4 feet square on the surface are marked out, taking off the turf about 4 inches thick, laying that on one side, the next spit and the loose soil in another place; the rougher and worthless taken out to a depth of 2 feet, depositing this by itself on the side of the hole. The bottom is then broken up 3 inches deep, which admits of a free percolation for surplus water from heavy or continuous rains. Breaking up the lower strata thoroughly dispenses with the necessity of laying drains. I prefer to have the sides of the holes perpendicular; this needs some attention in contract work, there being a tendency to have the holes more narrow at the bottom than the top. My idea is that in a few years’ time, when the roots have reached the sides of the holes, if a further width of, say, 1 foot more on all sides of the station is broken up to the same depth the trees will derive much benefit from the fresh food supplied and additional rooting space. By doing the work in this manner the cost is spread over a greater period, and with advantage to the trees.

When the holes are completed they should be filled in to allow the soil time to settle down somewhat firmly before planting. If the digging is deferred until a short time before planting there is a danger of the trees sinking below the surface too far for their well-being in the future. This is most important in a district where the soil is inclined to be heavy and a sure producer of muck and lichen-covered branches. It seems useless to say, Put the bad soil at the bottom of the hole, but there it must go. Chopping the turf into pieces about 4 inches square, laying this in a heap by the side of the hole, as that will be required for planting the tree. I prefer to allow the soil to settle down gradually into its place instead of treading it firmly, as percolation is rendered easier than when the soil is kneaded together in a wet state. Soil of a light character gives but half the trouble in preparing the stations as does that which is of the opposite texture; still for Apple growing the heavy soil, if properly managed, will give quite satisfactory results.

The next point is to prepare for planting the trees in the shortest space after they arrive. Stakes for the standards should be prepared, and ought to be not less than 5 feet 6 inches long or 2 inches in diameter. This will allow for 3 feet above ground, which is quite sufficient. The dwarf trees will not require stakes. What are better than the usually employed tar cord and pieces of cloth or bags to secure the trees to the stakes? Are withies made from young hazel about the thickness of the small finger and from 3 to 4 feet long? These twisted make capital supports for the trees. A loop is formed at one end, which encircles the tree, a handful of hay folded neatly is placed on each side of the tree to protect the bark. This is kept tight with the withy, a turn is taken around the stake, again round the tree, twisting the end itself

around between the stake and the tree, thus making both secure. The tree stands about 6 inches clear of the stake, preventing one rubbing against the other, as is often the case where string or tar cord is employed. These withies if well made of suitable material will last fully a year, often more, and is by far the best way I know of staking any kind of tree. Everyone with the smallest experience fully understands what damage is done to growing trees through faulty staking by the bark chafing against the top of the stake in windy weather, which causes wounds that cripple the after growth considerably.

When the trees arrive they ought to be unpacked at once, and laid in rows singly to prevent their roots becoming dry, arranging all the trees of one sort together, which facilitates planting. I plant the standards first, preserving a straight line. The roots of every tree are examined, any wounded parts are cut away, fibrous roots spring from these neatly pruned fibreless roots. While the trees are out of the ground the roots are covered with a mat. I attach much importance to this, never allowing the small fibres to become dry. On the surface of the soil in filled up holes we place a layer of the chopped turf, the tree is arranged in position, spreading the roots evenly, not allowing any to cross each other, cover with a compost of decayed vegetable refuse, wood ashes, and old potting soil, thoroughly mixed together. A gentle shake is given to the tree, which settles the soil about the roots, another layer of chopped turf is added, treading the whole gently to make the soil firm. We are guided in this by the state of the soil, if this is wet we defer the treading until it has dried somewhat. Two men follow closely in staking the trees; if this is neglected for even one night it often happens that many are displaced in the morning, and the work needs to be done again. The trees stand on a small mound at first, being on the surface of the soil, which in a few months settles down low enough. A mulching of half-decayed stable manure 3 inches thick is then laid all over the surface, covering the whole space of 4 feet, and the roots are thus guarded from the effects of frost. Frost does not injure the roots of trees which have not been disturbed, but with others it is different. Any extra pains taken in this respect well repays the outlay in attention.

The following are useful kitchen varieties in their order of ripening:—Lord Grosvenor, Potts’ Seedling, Stirling Castle, Ecklinville Seedling, Warner’s King, Cox’s Pomona, Mère de Ménage, Lane’s Prince Albert, Lady Henniker, Bramley’s Seedling, and York-hire Greening. Dessert varieties:—Irish Peach, Lady Sudeley, Worcester Pearmain, King of the Pippins, Cox’s Orange Pippin, Gascoigne’s Scarlet, and Braumann’s Red Reinette.—E. MOLYNEUX.

## SALVIAS.

THOSE who during the summer months have grown a good number of these useful plants will, if cultural details are well attended to, be amply rewarded by a good supply of bright elegant flowers during the autumn and winter which are useful for a variety of purposes. When grown for use as pot plants they are extremely effective arranged in masses. Mr. Bethel of Ashton Court, near Bristol, usually has a fine display grouped in masses of distinct colour, and very imposing they are. They are also admirably adapted for interspersing among the other occupants of conservatories and greenhouses, their long tapering and brightly coloured flower spikes, when arranged with taste and judgment among plants of more bushy growth, give that artistic lightness and finish which is so desirable. In addition to these good qualities Salvias are also of the greatest value for use as cut flowers. A few feathery plumes of Salvias when they rise from a thinly disposed base of other flowers are certain to find many admirers.

Many gardeners would find it to their advantage to pay more attention to the culture of Salvias. They may often be seen in good condition during the early stages of growth, but by the time they are in flower the brown foliage and loss of leaves show that the treatment they have received has been faulty. In my opinion, the chief causes of this state of affairs are want of feeding and too dry an atmosphere after the plants are housed. When the soil is well permeated with roots, liquid manure or artificial fertilisers should be given regularly in a weak state, with occasional waterings



with clarified soot water. The latter has the great merit of imparting vigour and colour to the leaves, and enables them to resist the attacks of insects. While in the open air the plants should be syringed daily during bright weather. Frequently the time when the plants suffer the most is just after they are housed; frosty nights are followed by bright days, the ventilators being placed wide open creates a strong current of air and quickly produces atmospheric aridity. The plants must therefore be thoroughly well syringed during the middle of such days, and the floors and stages damped if they are constructed of absorbent materials.

Plants of *Salvia gesneræflora*, which have the pots filled with roots at this season, require another shift, as it is one of the latest to flower, and is difficult to keep in good condition till the flowering time arrives if the roots are much cramped. The finest plants I ever saw were placed into 14-inch pots at the end of September, the soil used being two parts good loam, one of thoroughly decayed hotbed manure, with a little soot and sand added.

The planting out system answers well with *Salvias*, but when they are so treated the plants should be prepared for potting by cutting round the roots with a spade ten days before that operation is performed. The best varieties that I am acquainted with are the following, all of which are good:—

*Salvia splendens Bruanti*.—This is a great improvement on the old variety of *splendens*, being of dwarfer habit and the flowers more freely produced; colour bright scarlet.

*S. Pitcheri*.—An herbaceous variety, producing flowers in great profusion throughout the autumn months, and being of a bright blue colour is very desirable.

*S. rutilans*.—This is charming and extremely useful plant, and ought to become widely known and cultivated. The habit of growth is neat and bushy, and the leaves emit a delicious Apple-like perfume, and its pretty magenta coloured flowers are produced at all times of the year, as after the central flower spike has faded flowering side shoots are produced in great profusion, especially in the case of old plants. For this reason a few old plants should always be kept for supplying cut flowers throughout the year, and other cuttings rooted at intervals from March to August, so as to produce plants suitable for decorative work during the autumn months, when after flowering the majority of them can be thrown away.

*S. Betheli*.—Rose, shaded white. This produces flowers of a lovely colour during September and October.

*S. dulcis*.—An extremely fine scarlet variety, producing flowers in December and January.

*S. gesneræflora* is one of the best known *Salvias*, producing its showy scarlet flowers in great abundance during March and April. The leaves of this variety are apt to turn rusty if subjected to dry atmospheric conditions.

The best time to insert the principal cuttings of all varieties of *Salvias* is during April and May.—H. DUNKIN.

## GATHERING, PACKING, AND STORING FRUIT.

THE gathering of the past, with its picturesque and time-honoured surroundings, will soon disappear with the advance of scientific practice, and the scaling ladder, the shaking process, and the pole to settle with survivors will soon be things of the past. In place of the ladder against the tree, a ladder with a wide base and a wide spreading back to make it self-supporting will save the bruising of the boughs. The hand-picking of all the fruit will save the trees and fruit buds from destruction, and the hand basket instead of the sack will save the fruit itself from irreparable damage. The modern plantation, with its low standards and bush trees, indeed brings the fruit much more within the reach of the operator, which is a great advantage in gathering, as well as in all other operations connected with the cultivation and treatment.

Apples of the early varieties are gathered from the trees and sent direct to market, and it is important to gather them as early as possible. Many indeed may be gathered even before they are ripe, as allowance has to be made for the time that must elapse between the gathering and the consumption of the fruit, and many of the early varieties, such as Mr. Gladstone and Early Joanet, ripen very quickly after gathering, and last but a few days in a fit condition for use. Even some of the later and midseason varieties may be gathered before they are ripe in cases where the crop is short and prices are high early in the season. It will then pay the cultivator to gather some varieties even before they have attained their full size. Warner's King and Professor are two varieties that will often pay for gathering in this way. In gathering the bulk of the fruit, however, for home consumption or storing it is needful to allow them to remain on the trees until fully matured. A general fault perhaps is to gather them too early. The result of this is that the fruit shrinks, the rind shrivels, and the fruit has a

soft leathery and unattractive appearance, besides which the quality is greatly deteriorated through not having been properly supplied with the juices and saccharine matter, which during the later stages of development produce the full flavour of the perfect fruit.

Apples are mostly sent to market in sieves and half sieves, and should be at once graded into the various sizes before being placed in the sieves. To sort the fruit provide a tray made for the purpose, lined with thick felt to prevent bruising. The fruit is emptied from the gathering baskets upon the trays, and the sorter with the fruit in front draws it forward, and passes the various sizes to right and left into the different baskets, taking out all diseased and inferior fruits. Make it an imperative rule never to place two varieties in the same basket. The ordinary style of gathering and sending to market Apples from farm orchards reminds one of the lines in the "Chronicles of a Clay Farm" respecting the stirring of the clods:—

"Mingle, mingle, mingle,  
All ye who mingle may,  
Black spirits and white,  
Blue spirits and grey."

This is the best possible practice for the clods, but the worst for the Apples. The popularity of the foreign fruit sent to our markets has largely resulted from the care bestowed in this respect. A barrel of American Apples will be found of uniform size, and of one variety only. This is of the greatest importance to the housewife for cooking purposes. Some of the choicest specimens of dessert Apples will well pay for a little extra labour in packing, in order to present them to the customer in the most attractive form. Thus small boxes of neatly packed fruits of high quality will fetch a much higher price than if placed roughly in the ordinary basket, and we may also learn much from our French neighbours in this respect.

The storing of Apples for midseason and late use is a subject that should claim more attention than has hitherto been bestowed upon it; much fruit being placed upon the market for immediate consumption which is altogether unfit, and which would pay the grower well for storing until a later period. Many simple means may be found within reach of growers for this purpose. The first condition is that such building should be inaccessible to frost. Secondly, the temperature should be maintained as equable as possible, and not exposed to any sudden rise or fall. Thirdly, they should not be too dry, and some means of ventilation should be provided. A cave in a chalk bank, or a sandhill, makes an admirable Apple store, where all requirements are present with the exception of fitting up the needful shelves. Where this is impracticable it is sometimes the case that a barn or other farm building may be easily converted into a suitable store by the construction of an inside lining of match-boarding, the intermediate space being filled up with sawdust, straw or hay. Where, however, none of these means exist a simple store may be made by excavating the soil, and throwing up a bank on either side, roofing it over with rafters, and covering with a thick coating of thatch. A large quantity of fruit may be safely stored in a simple structure of this kind.

But where numbers of varieties have to be stored for private use, consisting of a collection of dessert and culinary fruit, a more commodious building should be arranged, with plenty of room for examining and drawing from the fruit as required, as well as provision for plenty of light. Arrangements, however, should be made to exclude the light completely when not required, as Apples keep better and retain their freshness more perfectly in the dark than in the light. But it will be necessary to provide double doors, double walls, and double windows, and the position chosen should be as sheltered as possible. Do not on any account introduce hot-water pipes into the Apple room, nor any means of artificial heat, but if properly constructed rely upon the double walls with the intervening air space to maintain the required temperature, and no anxiety need be felt if the temperature should fall several degrees below freezing point during a continued frost, but in such cases when the thaw sets in keep the room close for some time afterwards, and allow the temperature to gradually rise. Any sudden change of temperature will affect the fruit more than anything else. The shelves in such a house may be tolerably close together—say 1 foot from each other—as the fruit should be placed thinly upon them, not more than two layers one above the other. Where many shelves are placed one above the other at a considerable height it is a convenient plan to make the upper ones to slide out in sections, like drawers, for the convenience of placing or removing the fruit as required.

As to gathering, allow the late varieties to remain on the trees as long as possible, and they will not be damaged even by a few degrees of frost. Many people, alarmed by the falling of some of the fruit, gather their Apples much too early. If these fallen



fruits be carefully examined the bulk of them will be found to be maggoty and diseased, and even if some sound fruits are blown down it is better to spoil a few of these early in the season when fruit is plentiful than to spoil the bulk later in the season when fruit is scarce and valuable. Allow plenty of ventilation at the top of the room for a week or two after storing, for the escape of the perspiration, which takes place immediately after gathering. When this has ceased close the room, and subsequently only give air very occasionally.

The same remarks as to the time and mode of gathering Apples apply also to Pears. In the case of a few of the early varieties, such as Jargonelle, Beurré Goubault, &c., it is necessary to use them immediately after gathering, but a few of the second early may be gathered a few days previously; but they attain their best and fullest flavour by remaining on the trees until fully ripe. Where, however, they are particularly required a few days in advance of the time at which they will become naturally ripe, they may be accelerated by gathering and placing in a close box or drawer amongst some sweet, dry hay or Fern leaves, and keeping close for a few days. Colour and appearance may thus be produced quite equal to natural ripening, but the same fulness of flavour must not be expected.

Here, again, the choice dessert varieties are worthy of much more care in packing than they receive at present. For this small shallow boxes may be used, the fruit being packed closely in single layers, placing a small quantity of soft material at the bottom of the boxes, with a little also between each fruit, wedging each layer closely together; then fill up with some soft material on the top, so that the lid presses firmly on the fruit. This is important, in order to prevent the fruit from moving and rubbing each other. Boxes of proper dimensions can easily be obtained of packing-case makers at a moderate price. The best and cheapest packing material to use is wood wool, specially made for the purpose. It is light, elastic, clean, and made of wood which is free from smell.

Pears require when stored a warm, dry room in which to keep them, and they are very different to Apples in this respect. The cool and somewhat moist atmosphere required by Apples takes all the flavour out of Pears, whereas in a warm dry room the aroma, and also the rich saccharine flavour, are fully retained. A Pear store should be built where hot-water pipes can be introduced, or if that convenience is not attainable they may be stored in drawers or boxes in the dwelling house. In gathering for storing let the fruit hang as long as it is safe from frost, and be careful to gather when dry and without bruising. The same varieties should always be placed together in the store, and it will be found a great convenience to place them in the order of their ripening, with a distinct label to each, upon which should be noted the time when they will be in use. They require careful watching as they approach maturity, as in some cases the period in which they are in use is so short that it is needful to commence them the moment they are fit.

Plums may be often gathered before they are fully ripe. For instance, when the trees are heavily laden some fruit may be gathered when still green. This will relieve the trees and allow the remainder to swell and mature themselves, and the fruit makes a fair preserve. In packing Plums for market I would urge growers to take much more pains than at present is the case with the choice dessert fruit, in the way of packing them in small light boxes or baskets, putting them up in an attractive and tasty manner, so that they may be handed to the consumer without being rubbed and mauled about by the various hands through which they may pass. For dessert purposes the fruit must remain on the trees until fully ripe, and some varieties will hang on the tree for some time after they are ripe. But little can be done towards keeping Plums in store for dessert purposes after gathering; therefore, where succession of fruit is required it is essential that care be taken to prolong the season of use by planting varieties which will follow each other in ripening.

Soft fruits must be dealt with as they ripen, and here again it will pay to gather the best quality and pack in small punnets ready for retail purchasers, or in small square card boxes or square chip baskets. These are made to fit into larger packing cases, in which they are forwarded to the agent or salesman. A neighbour of mine has this season adopted an ingenious method of packing Strawberries and soft fruits in square paper pockets to hold 1 lb. each. The pockets are formed by folding the paper upon a square tin mould without a bottom. Twelve of these moulds fit exactly into a flat square box. After being placed in the box the fruit is tipped out of the gathering baskets into the open papers, and when they are filled the tin frames are drawn out. The upper edges of the paper are left about 1 inch above the top of the tin, and when the lid is placed on the paper is gently pressed down over

the fruit. When the box arrives at its destination each pocket with 1 lb. of fruit can be lifted out separately as required. When fruit is packed in some similar method to this, and is good and even in quality throughout, buyers soon find it out, and purchase accordingly. One great advantage in thus packing the fruit is that small purchasers get the fruit without its being repacked, and no handling is needed from the time it leaves the garden till its arrival at the consumers. Ever bear in mind that dessert fruit should be made to look as clean and attractive as possible. A little taste displayed in packing into boxes margined with ornamental paper often insures a ready sale for foreign fruit of even second-rate quality. The dressing and packing of choice fruit can easily be done at the homestead by women and children, who, with a little practice, soon do it quickly and well.—JOSEPH CHEAL, *Crawley*.

[Read at the Conference of the British Fruit Growers' Association, Edinburgh, September 10th, 1891.]

## HARDY FLOWER NOTES.

A SHORT absence from home has left so many arrears of work in both garden and greenhouse that but little leisure is left for writing. We are now, however, in the middle of September, and too soon winter's icy winds will be upon us. Yet no one could imagine this from the garden to-day. Nature has not yet assumed her russet robe, and although the Virginian Creeper is resplendent with its coat of many colours most things still wear a garb of vivid green. A few warm—almost tropically warm—days succeeded the heavy rains, and flowers have grown apace and glow with colour. Weeds, too, have flourished with a luxuriance which bids fair to conquer our utmost efforts to keep them in check. To-day was to have been devoted to a weeding campaign, but "the best laid schemes" have again been shattered by a return of rain. Meanwhile there is much to view in the garden. Annual Asters, albeit not hardy flowers, are none the less worthy of recognition of their beauty. Emerson says,

"Chide me not, laborious band,  
For the idle flowers I brought;  
Every Aster in my hand  
Goes home loaded with a thought."

Thus to the admirer of flowers not only every Aster but every flower seems "loaded with a thought," which will elevate the mind by its wonderful grace and design.

Gladioli, too, raise their gallant flowers with colours of the brightest hue. They have been doing well here this season, although during the dry weather they required frequent soakings of water. One is unwilling, however, even to appear to trench upon the ground of "D., Deal," who can discourse so well upon this and his other favourite flowers.

The Colchicums have again appeared as if some magical art inspired their movements. Yesterday there was a patch of dark earth, which looked as if no flower would pierce its surface until the spring came to call it from its "mother root." To-day the same spot is bright with blossom buds which in a few days will open fully to the advances of their favourite wooer—the sun. I grow about eighteen species and varieties of these Meadow Saffrons, and year after year as autumn comes round I watch eagerly for their appearance. This season they are somewhat late in peeping through the ground. Only a few varieties have as yet appeared, and among them one of the best of all, *C. speciosum rubrum*. This has fine large brightly coloured crimson purple flowers, which are of fine form, and in favourable soils and seasons would almost pass for a Tulip. *C. speciosum rubrum* failed to flower last year, and this season it is about a fortnight later than in 1889. This has been the case with nearly all my varieties, but they are only a week later than last year. The double forms are generally later of flowering than the single. I purpose this autumn and next spring (when the leaves appear) taking more copious notes of the various species and varieties, and to treat of them more fully than I have hitherto done in the Journal. None of the Croci are yet in flower, but they will follow shortly.

Stately as are the Gladioli, still more so are the Tritomas or Kniphofias. The tall species are noble ornaments of the garden, while the dwarfer *T. MacOwani* is one of the most interesting of our garden flowers. For long it looked as if none of these would flower this season, but they have made rapid progress of late. Strictly speaking, they are not usually herbaceous with me, generally retaining their foliage. I have given none any protection during the last winter, and the only one which suffered was *T. nobilis*, which was considerably damaged, but sprung afresh from the root. This will not flower with me this season. *T. MacOwani*, already mentioned, is very beautiful, being about 15 inches in height, with bright apricot coloured flowers. It



would be well if we could come to an agreement as to the name of this fine flower. *Kniphofia* seems to have, perhaps, the weight of authority in its favour; while *Tritoma* is decidedly more easily pronounced, by no means a slight advantage where we desire the scientific name to become familiar to the general public. *Kniphofia* was named after J. H. Kniphof, a Professor at Erfurt in the eighteenth century, and *Tritoma* was derived from *treis*, three, and *temno*, to cut, in allusion to the three sharp edges of the ends of the leaves. The popular names are surely numerous enough to satisfy the most ardent advocate of the use of these vague terms. Red Hot Poker, Flame Flower, Torch Lily have all been applied to the *Tritoma*, while, as if to add insult to injury, it has also been called the "Devil's Poker." My preference is for the name Torch Lily, the plant being one of the Lilyworts, and the form of the flower being more that of a "torch" than of a "poker" or a "flame."

What a fine effect would be made in the garden by a large clump of the white *Hyacinthus candicans* with a background of *Tritomas*. It is singular how slowly this *Hyacinth* makes its way. It attracts admiration from all by its stately yet graceful habit, and the purity of colour of its pendent bells. It might well be termed the "Autumn Snowdrop," were it not that it is not a Snowdrop, and that some day or other *Galanthus octobrensis* will be in clumps in our gardens, and we shall then have a true autumn Snowdrop. *H. candicans* or *Galtonia candicans* (which shall it be?) is so easily grown, so hardy, and so beautiful that it should have an honoured place in every garden in the land. It is readily raised from seed, which is freely produced. Equally fine in their way are the varieties of *Anemone japonica*, which are almost indispensable at this season of the year. They do not do so well on my light soil as I should like, and I purpose removing my plants to a specially prepared position, where with stronger soil and more moisture they may be finer and nearer their natural character.

What a shy flowering troublesome plant *Zauschneria californica* seems to be. I had expected that this hot dry summer would have caused it to flower with me; it will not do so, however, although Mr. James Davidson of Summerville, Dumfries, has it at present in flower. I have had it in the same position for some years now, but must give it a change and try once more. This is one of the plants which has not achieved the high position predicted on its introduction. It was to be a grand autumn bedder, and so forth. Even when it does flower it is by no means brilliant enough for bedding purposes. There is no fear of losing it when once planted, as it spreads so quickly that it soon encroaches on other plants. It should flower with me, and must if at all possible. The *Zauschneria* or Californian Fuchsia is a native of California, whence it was introduced from seeds sent by Hartweg in 1847. These seeds were collected near Santa Cruz. The generic name was given by Presl, in honour of M. Zauschner, a German. There is a superior form named *Z. c. splendens*.

The rock garden presents but little in flower at present. That ever-blooming plant, *Hutchinsia alpina*, is still in flower, producing its little heads of white flower here and there over a good sized plant. Another plant which is in flower for a long time at a stretch is *Arenaria cæspitosa*, the Turfy Sandwort. Although by no means so dwarf as *A. balearica*, it is yet dwarf enough and compact enough to please the most fastidious. It is of free growth, and will soon form a large mass of carpet-like light green foliage not more than half an inch in height, which early in the season is densely studded with tiny white flowers larger than those of the Balearic species, but almost as close to the plant as those of *Silene acaulis exscapa*. It commenced to flower in June, and even yet produces a considerable number of flowers. *A. cæspitosa* is a native of Switzerland, and was introduced in 1826. It is a far superior plant to such species as *A. graminifolia*, and as regards freedom and length of flowering is superior to *A. balearica*, although, so far as I have seen, it has not the power of creeping over stones, which renders the latter so useful and so interesting.

Close to the *Arenaria* is a good sized plant of *Margyricarpus setosus*, the Pearl-berry, one of the family of the *Sanguisorbaceæ*, receiving its rather unwieldy name from *margaron*, a pearl, and *karpos* a seed vessel, referring to the beautiful pearl-like berries produced on the plant. These are now in perfection, and for these and the deep green prickly looking foliage this trailing evergreen shrub-like plant is grown. The flowers are produced in the axils of the leaves, and are almost unobservable, while the berries are about the size of a small pea, and are of a beautiful waxy white colour. This *Margyricarpus* is said to like peat, but is doing exceedingly well in very sandy loam near the base of the rockery, where it is fully exposed to the sun in summer. It was introduced from Peru in 1829, and was for years grown as a stove plant—a mode of treatment quite in accordance with its probable requirements, but which was quite unnecessary, as has also been experienced

with several other plants from that part of the South American continent. The *Margyricarpus* has proved perfectly hardy in many parts of this country, and is possessed of so much distinctness of character that it should find a place in almost every rock garden. It grows only an inch or two in height, but will extend its branches a foot or more. As usual, space fails me, and with the garden gay with Sunflowers, *Oenotheras*, perennial Asters, *Phloxes*, a few Sedums, and dwarf Campanulas, and with Tiger Lilies with their spotted fiery blooms, we need not say that September cannot draw from her storehouse of flowers subjects worthy of our highest praise.—S. ARNOTT.

## INSECTS OF THE FLOWER GARDEN.

(Continued from page 114)

It is about this time of the year that I have had brought to me from gardens an insect akin to the sawflies last noticed—one which awakens surprise or curiosity, sometimes alarm. Occasionally it has been taken buzzing sonorously in a conservatory, or else it may have been caught reposing upon a wall during the day. This is the horn-tailed sawfly, of which there are two species. The larger of these, from its appearance, is generally supposed to be a kind of hornet; but insects of this genus are neither able to sting nor to bite. The explanation of their presence in gardens is, that they are now and then lodged while chrysalids within the wood used for sheds or summer houses, and subsequently emerge; also they may come from some shrubbery near where Firs are growing. As flies they possibly sip honey from flowers, since they have tongues. We are justified in killing them, their wood-boring propensities during the larval state ranking them amongst destructive insects. But the late Mr. Waterton maintained that these flies only deposited eggs upon timber that had begun to decay. These are laid by an ovipositor, which is formidable looking, and which has suggested that the female is a stinging insect. It has not the saw-like blade of the *Tenthredos*, but is armed with a fringe of teeth at the tip, and has ridges along the sides. This ovipositor has the strength and elasticity of steel, its movements being regulated by powerful muscles. Like most feeders upon wood, the larvæ of these wood borers grow slowly. They have a scaly head, with powerful jaws and tiny feet. We see *Sirex juvencus* the most frequently, blue and black chiefly, but with red legs and abdomen. The larger species is *S. gigas*, having a black head and thorax, the abdomen being yellow and black, the wings yellowish. Some think these flies are not true natives of Britain.

We come now to a remarkable group of flies which are known better by their performances than by their own personality, and which are popularly called gall flies. Destructive insects we could not call them; rarely do they imperil the life of a plant, and seldom do they render it unhealthy, but their proceedings make many plants less beautiful than they would otherwise be, as the larvæ or grubs disfigure and contort flowers, leaves and shoots; sometimes, also, they occur in numbers upon the roots of shrubs or trees. The flower garden is not exempt from the visits of gall flies any more than the orchards, woods or fields, and though they appear to be mere idlers amongst the blossoms, they combine business with pleasure. So numerous are the flies of the garden that even the entomologist cannot but overlook the gall flies sometimes amongst the multitude; still, if the gardener could always pick them out there would be little advantage in killing them. All the galls we notice, however, are not attributable to these four-winged flies of the hymenopterous order. Many galls are the work of the small two-winged flies known as the "gall gnats." Other galls are the abodes of some species of the aphid tribe, and galls there are, a few, attributable to caterpillars or to beetle grubs. Galls are very familiar objects. Conspicuous are the round galls of the Oak, the Currant-like galls that are strangely fastened together in strings, and most persons have seen the mossy gall that occurs upon the wild Rose and the Sweetbriar, a curious object, formerly credited with notable medicinal virtues.

In the flower garden the little rounded galls now and then to be seen on Rose leaves, and which may be found on several herbaceous plants, offer an illustration of the work of these insects. Common also are some galls that take the form of small ridges or protuberances noticeable on Composite plants or upon species of the Cruciferous tribe. A peculiarity of these gall insects is that they often take some natural feature of a plant and somewhat exaggerate it. Thus, for instance, in a hairy species galls are produced which resemble the hairs, but are larger, or the fly attacks shoots that are swelled naturally, and makes them bigger. Our present knowledge of these gall flies is not satisfactory, though from the gardener's point of view this does not matter much, for they are not enemies against which remedial or preventive measures can be taken. Galled leaves or twigs might, if removed, be burnt



or buried to prevent the emergence of the flies, but this measure may not be of any advantage, for it is a singular fact, true of galls both in gardens and on wild plants, that when kept quantities of them produce not the gall-maker (or the presumed one), but a parasite which has preyed upon the original tenant, whose skin, perhaps, remains as a relic. So common is it to discover intruders in galls that a name "inquiline" has been brought into use, meaning the occupier or parasite of a gall.

Nor does the matter stop here. The first inquiline is found sometimes to be followed by a second—that is to say, the grub which has killed the true grub of the gall falls itself a victim to the grub of another species of fly. However, in spite of all this destruction of one species by another many of the gall flies must emerge in due course, or the galls would cease to appear upon our plants. Some of the parasites produce four-winged flies and some two-winged.

A few descriptive particulars concerning the gall flies of our gardens generally should be appended. The majority of them are of minute size, and of dull colours; they are mostly summer insects, passing the winter in the larval or pupal state. Probably the most notable peculiarity in their appearance, distinguishing them from other flies, is the thick egg-shaped abdomen joined to the thorax by a short stalk. The thorax is oval, the head small, furnished with slender antennæ (which are much vibrated by the females when seeking places for their eggs), the wings narrow, occasionally very long. In many species the male flies are rarely seen; this has given rise to the supposition that the female may be able, as in the aphid tribe, to continue the succession of broods without the assistance of the opposite sex. The ovipositor is generally short, but the remarkably irritating effect produced upon vegetation by the punctures introducing the eggs, leads us to think that some poisonous fluid is thrown into the wound with the egg. If the gardener feels inclined to be vexed when he sees his plants or shrubs disfigured with, or contorted by galls, I would ask him to remember what he and his fellow men owe to one well-known species of gall we obtain from the East.

An exceedingly curious family of small insects links the gall flies with the ichneumons. They are parasitic in their nature, and are believed to attack occasionally the field cockroach. If they also make our domestic cockroach their victim, they are useful flies; for, as I have pointed out, this household pest visits the flower garden during the summer, often escaping notice from its nocturnal habits. These flies of the *Evania* genus have a very bulky thorax and a tiny abdomen, quite contrary to the usual proportion, but long legs. Their appearance seems to indicate that they follow their victims by running, and some think they were brought over with exotic plants.—ENTOMOLOGIST.



CATTELEYA LABIATA VERA.

QUITE an important gathering of horticulturists took place on Friday, September 18th, in Messrs. Protheroe & Morris's Sale Rooms, Cheapside, and very seldom do so many eager buyers assemble to compete for the possession of imported plants. For several hours the rooms were crowded, it was evident that the Orchid interest was as lively as ever, and a brisk contest resulted in substantial prices. The cause of the excitement was a consignment of fine healthy plants of the true old autumn flowering *Cattleya labiata*, re-introduced by Messrs. F. Sander & Co. of St. Albans, and

it was not surprising that a plant which had been so rare in cultivation should have been in such great demand. Few Orchids have so interesting a history connected with it as the original *Cattleya labiata*, but it is extremely probable that we shall never hear the whole of the facts connected with this beautiful Orchid, for many of the links in the chain of evidence have been lost, and others can only be supplied by those who are not likely to do so at present.



FIG. 49.—CYPRIPEDIUM ANTIGONÆ.

It is certain, however, that for many years every effort made to discover the native habitat of this *Cattleya* failed completely; collectors were repeatedly dispatched by the leading firms, and thousands of miles have been explored without the slightest success. It would be impossible to calculate how much has been expended upon these fruitless searches, and it had gradually become a fixed idea that the original *Cattleya labiata* was really extinct. Continued perseverance has, however, been rewarded, and cultivators have at last an opportunity of possessing one of the most historically interesting, and at the same time one of the most beautiful Orchids.

It is remarkable that while the other forms of the *C. labiata* group are widely spread in the Brazils, and have been introduced in quantities, the old form, which is especially valued for its autumn flowering characters, and the diversity it presents in colouring, should be restricted to so comparatively small an area. Fortunately the supply seems to be fairly large now it is found, and all danger of the plant becoming extinct in cultivation will soon be removed.

In reference to the history of this *Cattleya*, Mr. F. Sander has obliged me with the following note:—

"It was discovered in 1817 by Mr. William Swainson in the Brazils. He sent plants to London, and one flowered in 1818 with Mr. Cattley of Barnet, after whom Lindley named the genus. The elder Hooker also had a piece from Mr. Cattley, and with him it flowered in 1821. There were I should think some two or three dozen plants sent at first. Mrs. Horsfall, Liverpool, received some from the captains of vessels trading with the Brazils about 1830, and about 1845 a small lot arrived in France. There the matter rested until about 1882, when a small consignment came to the London Zoological Gardens, and passed into the hands of Mr. B. S. Williams of Holloway. Again, two years ago, a small consignment arrived in France. For Lord Hume's plant I offered 200 guineas, and was refused; it is a large specimen, and Mr. Turnbull grew it for fifty years. I should think the highest price paid for a plant is 110 guineas, but such figures as 50 guineas and 75 guineas have often been paid. Of course the plants sold were always small, i.e., with few pseudo-bulbs, as its



rarity induced people to cut it up. I should think twenty plants the outside of cultivated plants previous to the recent importation."

With regard to the plants introduced through the Zoological Gardens Mr. H. Williams gives these particulars. "*Cattleya labiata* vera was re-introduced by us from Brazil through Mr. Bartlett of the Zoological Gardens in 1882, and we purchased from him in 1883 five plants, one of which was in flower, the remaining plants subsequently flowering with us. He received them from some friends of his who were engaged upon railway work in Brazil, and by the time the first plant had flowered had left the part where the plants came from; you must understand these people know nothing about Orchids, and they were sent home by chance, not even Mr. Bartlett suspecting what they were. We made all the inquiries possible to find the whereabouts of these plants in Brazil but without avail."

Such are the principal facts respecting the introduction of *Cattleya labiata* vera into this country, and though of course it cannot be expected that the recent importers will tell us where they find the plants, yet at some time we may hear a still more entertaining history.

#### TWO BEAUTIFUL HYBRID CYPRIPEDIUMS.

At the meeting of the Royal Horticultural Society on Tuesday last, Baron Schröder was awarded a first-class certificate for *Cypripedium* Antigone, a hybrid raised by Messrs. J. Veitch & Sons, Chelsea, to whom an award of merit was granted for the plant some months ago. The flower shown on this occasion (fig. 49) displayed so great an improvement in all its characters that the higher award was accorded. The whole flower has a soft pleasing appearance quite distinct from all others; the petals and dorsal sepal very broad, white suffused with a soft rosy tint; the lip being rounded, and of a delicate blush white, deeper in the upper portion.

The other hybrid, which was well exhibited on the same occasion by the raisers, Messrs. F. Sander & Co., St. Albans, was *C. hybridum* Pollettianum (fig. 50). It is a hybrid from *C. calophyllum* crossed with *C. ænanthum* superbum, and therefore possessing a most interesting parentage, both the forms named being themselves hybrids, *C. calophyllum* from *C. barbatum* and *C. venustum*, and *C. ænanthum* superbum from *C. insigne* Maulei and *C. Harrisianum*. *C. ænanthum* superbum is generally regarded as one of the finest hybrids ever produced; but some may probably consider the new comer as, in some respects, an improvement upon that in richness of colouring and general appearance. The dorsal sepal is broad, rounded, margined with white, rich dark crimson, with chocolate spots. The petals are very dark, with three dark dots on the upper margin, the lower half at the base being of a peculiar transparent green with a few dots; the lip is very dark, and the whole surface of the flower has a polished shining appearance that in a bright light is very effective. It is undoubtedly a grand acquisition, and was awarded a first-class certificate last year.—L. CASTLE.

#### SEASONABLE HINTS ON FLORISTS' FLOWERS.

**AURICULAS.**—I have not had (indeed, never have), the opportunity of seeing much of other growers' Auriculas, the only collection, in fact, being that of Miss Woodhead's, of which I have already written in the Journal; indeed, as far as I know, mine is the only one in the county, and therefore my observations refer to that alone; but from what I hear of others, and from my own past experience, I imagine that it is a fair sample of the general condition of the flowers, for during a cold and wet season such as this, the Auricula is, I think, one of the few flowers that are benefited. They do not get so dry, and do not require such constant watering, and the absence of hot sunlight seems rather to suit them. They require at this season of the year but little attention, keeping them free from aphid and picking off the dead leaves being the chief things necessary. Of aphid I have had very little anywhere in my garden this year, and have had consequently but little trouble with them. There is also a green caterpillar which sometimes gets into the heart, and before you are aware of its presence does much

mischievous. This had better be looked for and destroyed. The pots should be carefully looked over and handled to see if they have got under any drip and so become soddened, for this is fatal to them. When the potting of the plants took place in May there were some offsets which had not rooted, and consequently were left on the plants, as I have found it very difficult to get them to grow unless they have a small portion of roots. On examining the plants now it will be found probably that they have emitted some roots, and that they can be taken off the parent plants. The best plan is to remove the earth and then break the offset off with the finger and thumb, tearing the main stem as little as possible. When taken off they should be labelled and potted. When more than one of a kind has to be potted it is well to put them round the edge of a 60-pot which has been half filled with drainage and then with the ordinary Auricula compost. Where the offset is a good size it may be potted singly in a small thumb. In the latter case they will make perhaps more rapid progress, as they can be shifted without disturbing the roots. After being potted they should be kept close for a few days. This is a good time to add fresh varieties to collections; such selfs as Heroine, Mrs. Potts, and Black Bess, and such edged flowers as F. D. Horner, George Rudd, Mabel, and Mrs. Dodwell will be found useful additions.

**CARNATIONS AND PICOTÉES.**—This is the most disastrous season I recollect for many years. There will be with many great difficulties in keeping up their collections, and where, as in my case, severe losses have been experienced it will be a good time now to look out for plants to supply their place. All layers should be carefully taken off when rooted, which will be, I think, late this year, for the weather has been cold and ungenial. With me the grass is stunted, and I have determined to cease growing the plants in pots, and to return to what was the universal custom in my boyish days—growing them in beds. I have no doubt many will consider this a proof of second childhood, but be it so. Such a shock as this

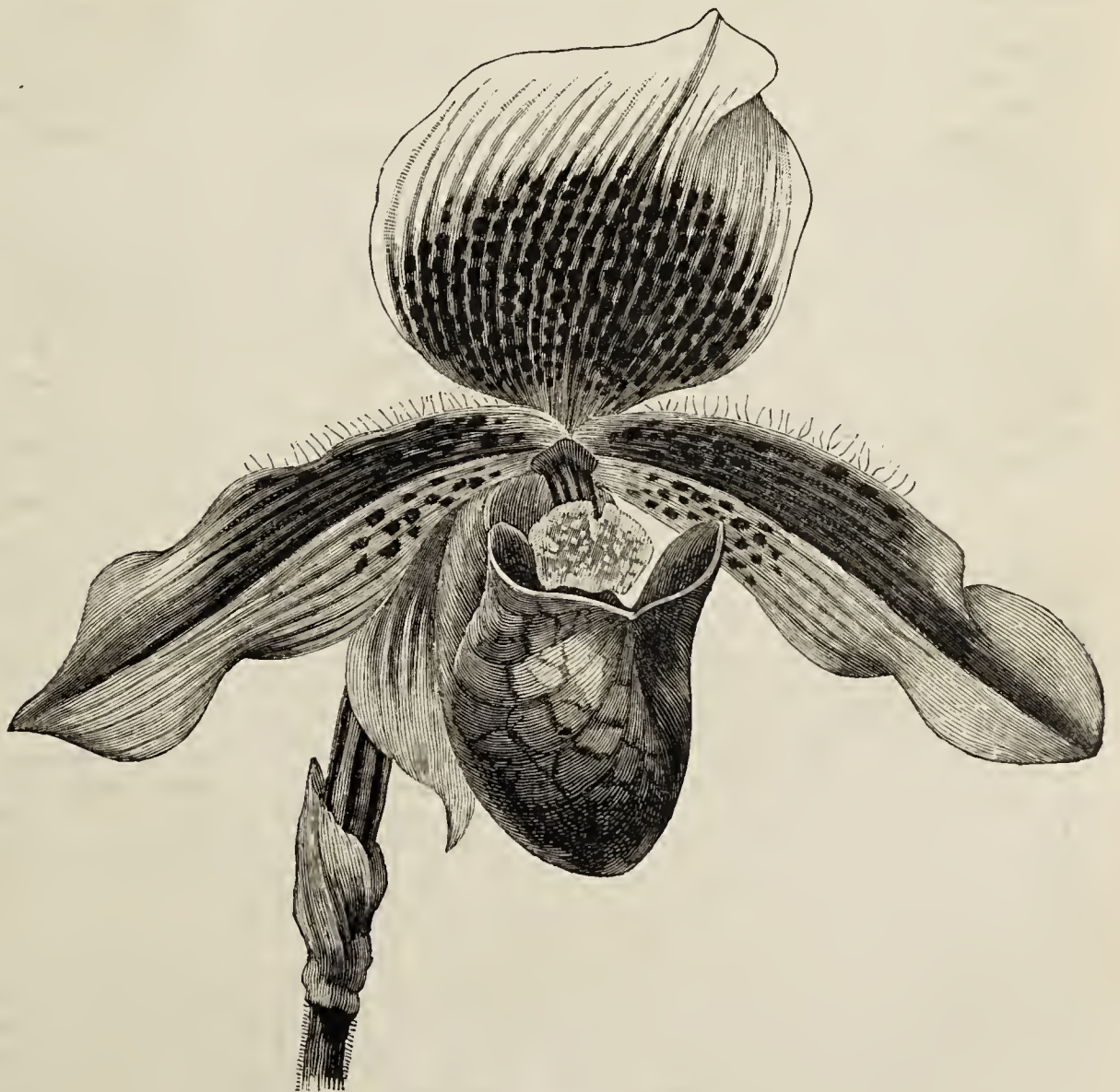


FIG. 50.—CYPRIPEDIUM HYBRIDUM POLLETTIANUM.

present season has given is not easily got over and I have not the hopefulness of youth now.

**GLADIOLI.**—Here again I have had a bitter disappointment. For the first time for upwards of twenty years I have been unable to put in an appearance at the Crystal Palace, owing to the extreme lateness of the season with me. I have fine spikes coming on, but



even some of the earliest bloomers—Atlas, Baroness Burdett Coutts, Ondine, &c., are hardly showing colour. There is but little to be done with them saving putting sticks to them so as to prevent their being loosened in the ground. We have had such a quantity of rain during July and August that I stand in some doubt how the corms will fare. If I find that towards the end of the month the weather becomes cold and adverse to the opening of the flowers I shall cut off the spikes, so as to give the plants a better chance to mature.

**PANSIES.**—These should be now potted, whether cuttings have been made or the roots planted out. This latter is my method as being easier, and I manage to get very good blooms and nice plants. In taking them up I divide the plants, cut off the long shoots, and then place two in a pot to be potted singly in the spring. Of course this is contrary to all propriety, but where many things have to be done at once some are apt to be scamped, and I suppose I must lie under the imputation of scamping my Pansies. I find it is of very little use to grow them in beds, for they do not thrive here as they do in the north of England and in Scotland. In potting them I use loam and leaf mould with very little manure, giving them richer material in the spring.

**ROSES.**—I have never known a season when the growth has been better or the plants freer from mildew and aphids. The former is, I am convinced, more abundant in hot and dry summers than in a moist and cold one like the present. The presence or absence of the latter is unaccountable. The rosery should now be kept, as always, clear of weeds, and I think it is now a good plan to cut clean out the old flowering wood of this year, and allow full light and air into the plants, thus securing ripeness of wood to the vigorous young shoots of the present year, which are to be the *spes gregis* for next season. I do not shorten these now, but if they are very long stake them, and shorten them later on in the autumn, for many of them will have good flowers which it is a pity to lose, as they in no wise injure the shoots. There are, I fear, some very considerable gaps in Rose beds this season, and amateurs will be considering how they may be filled up. The really good varieties are few, but for them and the older sorts also I should imagine higher prices will have to be paid. Should the weather hold fine for the present month we may expect to have a good show of late blooms.

**RANUNCULUS.**—Although nothing can be done at present in the cultivation of these beautiful flowers, I mention them because at this time of the year bulb catalogues from the Dutch growers are pouring in, and it is a good time to commence making a collection. As in the case of Tulips, they are not nearly so particular as to the quality of their flowers as we are. The best plan will be, I think, to get a collection of named sorts, and then eliminate from them when they flower such as are second-rate and increase the stock of the good ones. This I was obliged to do with Tulips as well as these; and, indeed, in the case of the former it will be far better to begin at once with English rectified ones than to encumber oneself with the Dutch kinds, which are mostly foul at the base, and many of them parti-coloured.—D., Deal.

#### SHOWING SPRING SOWN ONIONS.

MR. POWNALL having opened the above subject, which I understand was first discussed at Shrewsbury, I venture to give my opinion, which is in favour of a continuance of the present system. If the clause "to be sown in the open" were added to the schedule as suggested by your correspondent, unless the competition was localised in this and northern counties, gardeners would be placed at a disadvantage, as it is only by sowing the seed early and forwarding the plants under glass that they can cope successfully with exhibitors from the more favourable southern counties. Mr. Pownall's desire is laudable, but the remedy I would suggest is that those who see their productions set aside should follow the example of their more successful and elastic-minded brothers. Exhibitors of vegetables have generally a command of glass, and do not usually confine themselves to Onions alone, and if they treat Cauliflower, Celery, Leeks, and many other vegetables similarly they ought not to begrudge the time and space which Onions require.

I am not an exhibitor, but early next year we intend sowing a few boxes of Onions, and the bulbs will remain in them until planted out. Though they may not make exhibition specimens we think they will repay the trouble, but they will go first to the kitchen. We shall not neglect to sow in the open for later use, but shall not bind ourselves to wait for the calendarial spring.—S. BACKHOUSE, Shrewsbury.

REGARDING the question of how spring Onions should be shown as referred to by Mr. Pownall (page 239), I would ask why cannot those who have hitherto been content with sowing the seed out of doors in the ordinary way advance a step and, like others, sow the seed under glass? Surely more credit is due to the man who cultivates the present year's bulbs, each weighing say 1½ lb., or perhaps 2 lbs., than there is to the man who is content with those which will not bring down the scales at more than half the weight, and generally not that much in the

ordinary method of growing them. Visitors go to shows to see produce a little out of the ordinary quality. One dish of Rousham Park Onions of the weight of those quoted would be more attractive than a bushel of the ordinary. Where would be the interest in seeing an array of bulbs grown under the conditions suggested by Mr. Pownall?—E. MOLYNEUX.



**ROYAL HORTICULTURAL SOCIETY.**—An exhibition of Asters, Sunflowers, and Conifers will be held in the Chiswick Gardens on October 6th, 7th, and 8th, 1891. Fellows of the Society are particularly invited to assist in making the Exhibition a great success, either by contributing specimens of Asters, *i.e.*, Michaelmas Daisies, Sunflowers, or Conifers themselves, or by inducing others to do so. On October 6th a Conference will be held at 2 P.M. on Asters (Michaelmas Daisies) and Perennial Sunflowers, and the following papers will be read:—Opening address, by Mr. J. G. Baker, F.R.S., &c., Chairman; "The Genus Aster," by Professor G. L. Goodale, Director of the Botanic Gardens, Harvard University, U.S.A.; "Michaelmas Daisies," by the Rev. C. Wolley-Dod, M.A.; "Perennial Sunflowers," by Mr. D. Dewar; "Culture of Sunflowers," by Mr. E. H. Jenkins. On October 7th a Conference will be held at 2 P.M., on Cone-bearing Trees and Shrubs, and the papers to be read are as follows:—Opening address on the Special Features of Interest in the Order of Conifers, by Dr. Maxwell T. Masters, F.R.S., &c., Chairman; "Japanese, Chinese, and Californian Conifers," by Mr. H. J. Veitch, F.L.S., &c.; "Conifers as Specimen Trees and for Landscape Gardening," by Mr. George Nicholson, A.L.S.; "Conifers for Timber and in Plantations," by Mr. A. D. Webster; "The Decorative Character of Conifers," by Mr. Edmund J. Baillie, F.L.S.; "Conifers at Bickton, Devon," by the Hon. Mark Rolle; "Conifers at Dropmore," by Mr. Charles Herrin. On October 8th the Conifer Conference will be resumed at 2 P.M., the papers to be read being Opening Address, by Professor Bayley Balfour, M.A., F.R.S., &c., Chairman; "The Value in the British Islands of Introduced Conifers," by Mr. Malcolm Dunn, F.R.H.S.; "The Quality of Coniferous Timber as affected by Sylvicultural Treatment," by Dr. William Somerville; "The Timber of Exotic Conifers Grown in Scotland: its Uses and Comparative Value," by Mr. D. F. Mackenzie; "Fungoid and other Diseases of Conifers," by Professor Marshall Ward, M.A., F.L.S.; "Insects Injurious to Conifers," by Mr. W. F. H. Blandford, M.A. In addition to the prizes offered in the schedule, awards will also be made to coniferous plants plunged in banks or beds of cocoa-nut fibre.

— **ROYAL PRESENTATION TO MR. T. JONES.**—We learn that the Queen has presented a silver tea set to Mr. T. Jones, the recent head gardener at Frogmore, on his retirement from Her Majesty's service.

— **WITH much regret we have to announce the death of M. JEAN B. J. VAN VOLXEM OF BRUSSELS**, which took place on September 14th, in his sixty-second year. M. Van Volxem had travelled widely in Asia and America, and collected many plants, of which *Tacsonia Van Volxemi* is perhaps the best known. He also formed an arboretum near Vilvorde, which contained an interesting collection of trees and shrubs. M. Van Volxem had a large circle of friends, and was highly respected amongst Belgian horticulturists.

— **FRUIT CULTURE.**—Towards the Mansion House Fund which the Lord Mayor, in conjunction with the Fruiterers' Company, recently opened for the promotion and encouragement of fruit culture in this country, the following among other sums have been received:—Messrs. Crosse & Blackwell (second donation), £52 10s.; Mr. John Corbett, M.P.; £21; Sir Humphrey de Trafford, £10; Mr. Hope Edwardes, £5; the Duke of Newcastle, £10; Mr. Chaplin, M.P. (Minister for Agriculture), £10; the Misses Fleming, £10; and the Marquis of Bristol, £10. According to ancient custom the Fruiterers' Company will, on October 7th, present to the Lord Mayor specimens of English-grown fruit. The origin of this practice is that the Lord Mayor's meter was formerly entitled to receive a portion or sample from every load of fruit coming into the City, which practice became the occasion of much controversy between the collector and the persons bringing in the fruit. The dispute



was eventually arranged by the Company's annual presentation of samples of fruit to the Lord Mayor for the time being. In return the Lord Mayor invites the Court of the Company to a banquet at the Mansion House, which this year will take place on the same day as the presentation ceremony.

— GARDENING APPOINTMENTS.—Mr. James Rogers, recently foreman at Nash Court, Faversham, has been appointed head gardener to P. C. Hardwick, Esq., The Grange, Bradford-on-Avon, Wilts. Mr. F. Buckland, late of Sefton Park, Slough, Bucks, has been appointed head gardener to Sir George Elliott, Bart., M.P., The Friars, Newport, Monmouthshire.

— WEATHER AT LIVERPOOL.—We are experiencing another unwelcome change in the weather. During last week we had quite a variety. Saturday was a beautiful day, Sunday rainy and gloomy, whilst at night the rain came down in torrents, with a strong wind from the N.W. To-day (Monday) is the same, and much fruit is blown from the trees. The temperature is much lower.—R. P. R.

— BOCCONIA CORDATA, commonly called the Plume Poppy, is a plant not nearly so much grown as its merits deserve. Not only is it very showy when growing at the back of an herbaceous border, where it is so useful for supplying cut flowers in abundance, but for growing on the grass in isolated places, by the side of water, amongst dwarf Rhododendrons, Hicaths, or Azaleas. It tends to brighten up and make attractive such positions at times when they would otherwise be dull. We have it growing in masses 6 feet across. A capital effect is produced in this way, especially as the background is one of evergreens. As to propagation that is a simple matter, every bit of root will throw up a growth, which in a year's time will form a strong clump.—E.

— VALUABLE as are all the ANNUAL CHRYSANTHEMUMS for bedding and cutting purposes, there is none more so than the *Chrysanthemum inodorum plenissimum*. The seed may be sown in pans or boxes at the end of March or the beginning of April, and when large enough pricked out 3 or 4 inches apart in good soil, finally to be transferred to the beds or borders. The flowers are pure white and equal to any Pompon Chrysanthemum. For bouquets and other decorative work, where white flowers are in demand, this plant is most suitable. Outside at the present time the plants are covered with bloom, and a pleasing sight they make. I write in its praise, after seeing a delightful bed of it at Roby Mount, where Mr. Eaton, the gardener, intends to grow it in greater abundance another season, so useful does he find it. Mr. Osborne, the gardener at Aymestry Court, Woolton, uses it most extensively.—R. P. R.

— THE VINTAGE PROSPECTS.—The fine weather that has prevailed during the present month has greatly modified the gloomy forebodings that were entertained in regard to the coming vintage. In France and Germany the temperature throughout the spring and summer months was so adverse that the Vines fell into an unusually backward condition, and fears were expressed that the vintage would be a complete failure. Fortunately, however, September has brought the necessary warmth, and the ripening of the Grapes is now rapidly proceeding. Even as it is, says the *Wine Trade Review*, the gathering will be delayed considerably beyond the customary period, but, in France at all events, there is hope that the crop will prove to be fairly satisfactory. The champagne country appears to have suffered in a peculiar degree from the inclemency of the weather. At the close of August and at the beginning of the present month there were heavy storms of rain and hail, which did great damage in certain districts, and, though there has been an improvement since, it is probable that the crop will be lacking both in quality and quantity. The Charentes have recovered better, and a Cognac correspondent says that if the favourable conditions continue, there is likely to be a good yield of wine. With regard to the claret vintage, a Bordeaux correspondent states that irregularities are observed in the ripening of the Grapes, so that when some are cut others will have to be left to further mature; but there is reason for believing that a fairly heavy crop will be obtained. In Burgundy, on the other hand, a diminished yield is expected. The outlook in Germany is discouraging in every sense, for there are indications that there will be a lack of quality as well as quantity. From Portugal it is stated that the vineyards show considerable inequalities, owing to more or less harm having been done in various districts by drought and mildew; but it is probable that the yield as a whole will be heavier than last year's. In Spain, also, there is a hopeful feeling prevalent.

— WE understand that the annual dinner of the UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY will take place on October 18th next at the Cannon Street Hotel, Mr. George Dickson of Chester presiding.

— JAPANESE POPPIES.—Those who have not yet given these delightful flowers a trial should make a point of growing a good number next year, as I feel sure they only require to be known to enable them to be extensively cultivated. I have always entertained a great liking for Shirley Poppies, but in my opinion that type will be rapidly superseded by the Japanese kinds, the petals of which are deeply lacinated, and have the appearance of tissue paper, with the edges clipped into narrow shreds. The flowers are white in the centre, each petal gradually shading to pink and rose from the centre to the outer edge. The Mikado is a double form, with the same shades of colour. The plants grow quickly and moderately strong, and are decided acquisitions for supplying beautiful cut flowers.

— THAT beautiful Privet, *LIGUSTRUM LUCIDUM*, is a capital plant for mixed shrubberies, as it flowers at a time of the year when flowering trees and shrubs are not plentiful; and being only a moderately strong grower, it is well adapted for planting in the fore ground. Its white paniculated flowers (which are now fast opening) look exceedingly well as they rear their heads above the green shining foliage with which the bushes are plentifully clothed. The flowers are also useful for cutting.—H. D.

— DAFFODIL PRIZES FOR 1892.—Messrs. Barr & Son, 12 and 13, King Street, Covent Garden, London, have presented the following prizes to the Royal Horticultural Society for cut Daffodil flowers, to be competed for at the Society's fortnightly meetings, to be held in the Drill Hall, James Street, Victoria Street, Westminster, London, during 1892. The number of classes and the dates of the meetings will be published in the Society's prize schedule for 1892. February.—Collection of forced Daffodils, *Polyanthus Narcissi* excluded, open to all classes of exhibitors; large silver medal. Best seedling Daffodil, not yet in commerce, raised in England, Scotland, or Ireland, and shown during the season, accompanied by the history of its origin, not a *Polyanthus Narcissus*, open; large silver-gilt medal. This prize may be competed for at any of the Daffodil meetings, and the award will be given to the best specimen which has been exhibited during the season. March.—Collection of forced Daffodils, *Polyanthus Narcissi* excluded, open; large silver medal. Collection of Daffodils, *Polyanthus Narcissi* excluded, open; first prize, large silver medal; second prize, small silver medal; third prize, large bronze medal; fourth prize, small bronze medal. The same prizes will be offered in April and May.

— STRAWBERRIES IN HAMPSHIRE.—As showing to what extent the culture of Strawberries has developed in this neighbourhood and what a source of profit the fruit is to the railway companies alone, I may mention that from Swanwick Station, which is a very small one on the new Fareham and Netley line, no less a weight than 645 tons 19 cwt. was sent in three weeks, the charge for carriage being £1472 19s. 3d. The bulk of the Strawberries went to Covent Garden. The increase in value was £409 9s. 8d. over that of last year, and the weight showed an increase of 86 tons 12 cwt., or in the number of packages 16,309, the total number of those for the year being 61,222. The large number of packages is owing to the increase in sending so many Strawberries away in separate baskets, each containing one gallon. This shows what an increase in labour Strawberries make at one station only, but it does not by any means represent what the neighbourhood of in, say, an eight-miles area produces in Strawberries. In addition to the above, it is not an uncommon thing to send away 50 tons from Botley alone in one day, this being a station on the Portsmouth and Southampton line.—M.

— NORWICH DAHLIA SHOW.—At the Norwich Dahlia Show held on the 10th inst. the awards in the classes for thirty-six, eighteen and twelve Show and Fancy, distinct, were in each case—first, Messrs. Rawlings of Romford; second, Rev. Charles Fellowes, Shottesham Rectory; and third, Messrs. Daniels Bros.; whereas in the six classes for Cactus, Pompons and singles, Messrs. Daniels took five firsts and one second; this firm also carried off all the first prizes for Pelargoniums. Asters and Marigolds would have been a disgrace to a village show of the third class. The Rev. Page Roberts had some good Roses; for twelve bunches, distinct (six in each), he showed nothing but Teas, and was easily first again for twelve distinct singles. His stand of six hardy cut flowers was beautifully set up, and in the opinion of many should



have been placed first instead of second. Vegetables were good all through, Potatoes especially. Messrs. Daniels had a splendid collection backed by a magnificent row of *Lilium auratum*s. Fruit was well shown. Mr. Green, nurseryman, East Dereham, exhibited a quantity of Pompon and Decorative Dahlias, and his large stand was tastefully and most effectively laid out, adding much to the generally interesting features of the Show. The weather was lovely. All the arrangements were admirably carried out by the energetic Secretary, Mr. A. Upstone, supported as he was by an enthusiastic and working committee.—J. A. W.



FIG. 51.—MR. R. LINDSAY.

— ELECTROCULTURE. — Experiments have been carried out in France, in Lot-et-Garonne, by M. Barat, upon the application of electricity to the culture of Potatoes, Tomatoes and Hemp. A row of Hemp subjected to the influence of the electric current produced a row of stalks 18 inches higher than those not electrified in the same time. A kilogramme (2.2 lbs.) of Potatoes planted in a path of the current produced 21 kilogrammes of very large and healthy tubers, while the unelectrified patches only gave 12½ kilogrammes of medium size. The electrified Tomatoes also became ripe some eight days before the others. A curious fact has been remarked by M. Barat in his experiments. If a quantity of manure is near the positive pole, the constituent parts of this manure are transported towards the negative pole, and their effects make themselves felt around a distance of some yards. This would seem to be a fresh proof of the opinion long advanced upon the part played by electricity in the growth of plants, an opinion also adopted by M. Speenew, who has given some attention to these phenomena; this is, that the action of the electric current upon plants seems to consist in the more active dissolution of the organic principles existing in the soil, which are thus brought within the reach of the roots.—(*Electrical Engineer.*)

— THE LATE MR. WILLIAM HOLMES.—Soon after the death of Mr. Holmes a committee was formed in Hackney to raise a fund for providing a local memorial of his worth and the esteem in which he was so generally held. With the concurrence of his widow this took the form of a handsome headstone in white marble continued round the grave to a suitable height so as to admit of the surface being planted with flowers. The upper portion of the headstone is finely sculptured, showing clasped hands with the sentence below, "We shall meet again," having representations of Chrysanthemums above and at the sides in bas-relief, and at the top of each of the two dark granite columns which support the upper sculptured portion, a bunch of Primroses, commemorative of his association with the local Primrose League. The inscription between the two columns sets forth the date of Mr. Holmes' death, September 18th, 1890, and goes on to state that "This memorial was erected by a number of friends of the late William Holmes as a token of their affectionate regard for his manly Christian character, and to mark their sense of his valuable services to the people of Hackney as one of their most trusted and zealous representatives upon the local boards; also in grateful remembrance of his unceasing labours in the world of horticulture, especially in connection with the culture of the Chrysanthemum." In spite of the very wet weather a considerable number of friends were present at Abney Park Cemetery on Saturday, September 19th, and after a short service the erection was formally handed over to the widow, Mrs. Elizabeth Holmes.

— IN "Seribner's Magazine" for September there is a picture of the SACRED BO-TREE OF CEYLON, from a photograph by Mr. James Ricalton, who states that it has stood for 2130 years, according to authentic records, and is probably the oldest historical tree in the world. The Bo-tree (*Ficus religiosa*), in all countries where Buddhism prevails, has become a consecrated object, and may be seen on the road-side, about houses and temples and in towns, protected by masonry, over which shrines are placed for homage-offerings. This particular tree in Anuradhapura crowns the uppermost of three successive terraces; it has a multiple trunk, and its several divisions are feeble and gnarled, while its leaves lack verdancy and vigour and show the pallor of decrepitude. The soil about its roots is almost saturated with the oil of its anointment, and yet it spreads its protecting arms over its devotees while they deposit their offerings about it. All of them are eager for a single leaf, but no one would dare pluck it from the tree, for it must fall in full maturity to yield its highest merit. When one of these withered leaves loosens from its branch and comes sailing down there is a pious scramble among the multitude, a collision of zealous heads and hands, and then the solitary leaf is borne away in the happy bosom of the successful competitor.

— MR. EDWARD WHITTAL writes to *The Mayflower* from Smyrna very pleasantly of his excursions to the mountains, where he has been collecting CHIONODOXAS. Besides the original *C. Luciliæ*, discovered by Mr. Maw, he found the first variety of this plant on the Mahmut Dag, and named it *Sardensis*, from the beautiful plains of Sardis, which lay before him. This plant is of a darker tint than *C. Luciliæ*, and the intenseness of its colour where many plants were grouped together, with a background of rocks, made a picture not to be forgotten. This variety of the *Chionodoxa* has white and pink sports, and it is an acquisition for the rockery or wild garden. Mr. Whittal found the third *Chionodoxa* on the Tmolus range of mountains. It is a smaller, but brighter coloured, plant than *C. Luciliæ*, and he named it *C. Tmolusi*. It has been considered by some botanists as identical to the one discovered by Mr. Maw, but in its wild state the difference between the flowers is very marked. No white or pink sports of this plant have been found. It was near this third *Chionodoxa* that Mr. Whittal found the variety which he named *Gigantea*, from its more massive flowers. The colouring of this plant is not so brilliant as in the type, but this deficiency is made up by its size and by the erectness of its flower-scape. It varies in colour more than the other Glories of the Snow, and when well established it will be sure to attract attention.—(*American Garden and Forest.*)



FIG. 52.—MR. R. P. BROTHERSTON, TYNNINGHAME.

## THE EDINBURGH SHOW.

### FRUIT STEALING.

THERE was much worthy of praise in the general arrangements of the recent Show at Edinburgh, but there were also several serious defects, and it would be well if they were carefully considered with a view to their rectification in future. One of the greatest of these to which I especially wish to draw attention now occurred in the removal of the exhibits; and with many years' experience in horticultural shows in the United Kingdom I must say I never witnessed such a scene as that which prevailed outside and inside the Waverley Market on the Friday night. It was



little short of a riot round the doors, such fighting and shouting has surely never been known at a show before. Then, too, when admission was obtained some exhibitors discovered that their best fruits had been stolen. This is a very serious matter for gardeners, who are often expected to return their prize fruits to their employers' tables, and even where the fruit had been sold it would lead to many difficulties. If some of those who suffered in this way would record their grievances in the Journal it might result in a considerable improvement on another occasion, for no doubt the Council of the Society are in a measure responsible for



FIG. 53.—MR. THOMAS BOYD, CALLENDAR HOUSE.

the safe custody of the exhibits, and for their own credit they should take active measures to stop such disgraceful procedure.—  
A VISITOR.

#### STANDS FOR GRAPES AT EDINBURGH.

IN your excellent report of the Edinburgh Show you give the dimensions of the stands for Grapes as they should be according to the schedule—viz., "a breadth of 14 inches from front to back, depth at back 10 inches, and depth at front 2 inches." Now as this was probably the largest and best exhibition of Grapes that has ever been held there is a danger of these proportions being copied by other societies, and this is my chief reason for sending you a line on the subject.

As a matter of fact, I believe I was the only exhibitor who used such stands, and they were made specially for this show. The result was that large bunches lying on so flat a surface opened their shoulders considerably, and of course showed where the berries had touched each other, hence the remarks which your reporter was justified in using concerning my exhibits—"suffered in transit," "slightly rubbed," &c. The fact is the Grapes travelled very well, and the damage occurred in the Waverley Market, when the stands which had hinged supports were opened out to the specified angle.

I find the stands I generally use—and they do not differ materially, I think, from the majority of those used at Edinburgh—are about a foot in breadth and 15 inches high at back. This gives a very good angle both for exhibiting and for travelling. It would be desirable to have something like uniformity in our Grape stands, not to be too rigidly enforced, and now is the time for suggestions.—WM. TAYLOR, *Bath*.

#### OUR PORTRAITS.

IN accordance with our promise last week we give four other portraits of northern horticulturists in the present issue, pages 266 and 267. Mr. R. Lindsay is the well-known and respected Curator of the Royal Botanic Gardens, Edinburgh; Mr. R. P. Brotherston has charge of the gardens at Tynninghame, and has contributed to these pages for many years; Mr. Thomas Boyd is the able gardener at Callendar House; and Mr. J. Brown holds a similar position at Abercairney near Crieff, where he grows both fruit and vegetables very successfully.

#### FRUIT CULTURE AND VARIETIES.

AN excellent idea is brought forward in the Journal last week, where we find it stated in the columns allotted to correspondents regarding the naming of fruits (page 255), "In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to pass the inferior which are not worth sending or growing."

In these days, when the fruit industry is being so steadfastly advanced and which must, on account of the great assistance it is receiving from the county councils, societies, and private individuals, be destined to occupy a large share of attention in the future, I think every suggestion of a practical nature likely to benefit those who will be largely dependent upon it ought to be given in the columns of your valuable paper. Quite a revolution in this matter has come upon us. Many people who have not had any serious thoughts on the subject are beginning to find out that, with a proper system of growing and the right varieties, much that was thought impossible may be made possible, and a greater amount may be produced from the land, which will certainly augment their incomes. But it is quite impossible to bring about all this without a great deal of help being given by those qualified to give it. We see fruit, handsome in shape and brilliant in colour, exhibited at many of our leading shows, and which naturally finds many admirers. How often do we hear the remark made by some on-looker that they must have a tree or trees of such a variety? never for a moment asking themselves the question if it will do in their particular locality. The trees are forthwith purchased, and they go on growing, but produce very little fruit, and certainly nothing like what was exhibited. Much time is often spent in trying to bring them to perfection, but all to no avail. Now had some of those persons who do this been instructed that the variety was never meant for their locality, how much time and patience might have been saved, and instead the space could have been occupied by a suitable variety, and one which would give full crops of fruit each year. This, to my mind, is one of the essential points to be considered far and wide, more especially by those who have to make a living by it.

In conclusion, may I ask if it would not be possible to find out of each county at least one who would undertake to gather what information they could as to the most approved varieties for their county, with style of training suitable, and any other information that would prove useful? I think by this means we should have much valuable information imparted which would prove of lasting value. I am well aware that a great deal has been already done in this direction by conferences, reports, &c., the benefits of which cannot be over-estimated, but much more may still be done. Of course this is merely a suggestion. If any of your correspondents who could offer anything better, I should be very willing to give way to them, and do what I could to further the objects in view.—R. P. R.

#### MISS ORMEROD AND HER WORK.

IN answer to a correspondent who desires to know in what manner and on what terms this lady will continue her work in future, we have pleasure in publishing the following statement from Miss Ormerod. It is evident that she is much more generously disposed to the public than the Council of the Royal Agricultural Society has been to her. It appears from what we learn that they not only wanted her services, but



FIG. 54.—MR. JAMES BROWN, ABERCAIRNEY.

that of her helpers, and to turn all over to the Board of Agriculture in a peculiarly high-handed manner. Though the claims made were withdrawn Miss Ormerod prefers to be free to act for the public good, untrammelled by any Society. Writing from Torrington House, St. Albans, she says:—

"I feel I shall work with more comfort and, I hope, usefulness, if free from possibility of claims being urged on me for work other than that of attending to the inquiries of my many and much-respected correspondents.

"I hope to make no change whatever in the nature of the work which I have now been carrying on for fourteen years, i.e., to reply with the greatest care and attention in my power to every inquiry with which I may be honoured (for I esteem it a great honour, as well as pleasure, to be of service in the matter), regarding measures useful in lessening loss



through ravages of injurious crop insects. Through the sound information which has been brought forward during the many years I have worked on the subject, and placed in my hands for publication by my correspondents and co-operators (the agriculturists, fruit-growers, and foresters of this country), enormous advance has been made. We can point to the information they have given on turnip fly, wireworm, hop aphid, warble, and other great scourges, and which they have permitted me to embody in my yearly reports.

"With their help I hope I may be permitted to continue this work. It was begun years before I was connected with the 'Royal,' and has in great part been continued without any official reference to it, and I hope to be permitted the pleasure still of being consulted, and of replying to all inquiries just as before, whether to the 'Royal' members or to the general agricultural public, from which the mass of the inquiries are sent; only that the information that I look forward to being permitted to supply, would be sent wholly gratuitously, instead of as at present being (nominally) in case of members of R.A.S.E. on payment of a small fee.

"As before, I purpose to embody the information received in an annual illustrated report. This (as before), to be presented to each contributor of serviceable information, and (also as before) I hope to be allowed the aid of the agricultural Press, which has so long, and so ably and courteously been accorded, and still to benefit by their help in bringing points of interest regarding crop attacks before the public, and to reply to inquiries of any special interest which their Editors (as for many years past), may desire my opinion on.

"It is, with very deep regret, that I have deemed it desirable to sever my connection with the Royal Agricultural Society, amongst which I have many kind friends, and cease to be able to claim the highly honourable title of its 'Consulting Entomologist,' but my great desire is to be of service practically, and this I believe I can be much more fully when freed from the anxieties and possible ties which public office necessarily brings with it."

### A VISIT TO NORWICH.

"WHAT is Norwich famous for?" was a question once asked me; and although I had never visited East Anglia I ventured to answer the question thus, "What is the ancient City not famous for?" and now that I have visited Norwich three times in four weeks I am bold to think that my question was a good answer to my friend's question. Old Thomas Fuller, in his work styled "Worthies of England," writes: "Norwich is either a city in an orchard or an orchard in a city." It has also been called "the city of gardens," and verily and indeed it may be so called to-day. I have visited nearly every city in Great Britain and Ireland, but never have I had such a general floral treat as in my perambulations around the chief town in East Anglia. Moreover, how very interesting to the antiquary and the archaeologist must be a city held successively by the Romans, Saxons, and Danes! The old part of the city is most picturesque, and its cathedral, as the world knows or ought to know, is one of the most beautiful and interesting in the three kingdoms. But apart from that which appeals to our higher nature, Norwich is, though situated in a purely agricultural district, noted as a manufacturing town. Its crapes and bombazines are world famed, and, believing in the truth of the saying that "there is nothing like leather," we find the staple trade of the city to be that of boots and shoes. Agricultural and horticultural machinery is very largely manufactured, and Messrs. Boulton & Paul's advertisements of conservatories and all horticultural and garden appliances may be seen and read in the *Journal of Horticulture* every week. There are five or six widely known carriage makers; and who has not heard of, if not tasted, Colman's mustard? Perhaps some of your readers may not have heard the story said to have been told by Mr. Gladstone's late host, Mr. J. Colman, M.P., how that the famous mustard firm made their huge profits, not so much by the amount of the condiment consumed, as by the amount left on the plates of the consumers.

On the last two of my visits to this historic city, my "objective," as our only General (not Booth) would put it, was Messrs. Daniels' nurseries, about which I had heard glowing accounts, and I was not disappointed; so I think a short account of my visits may possibly be of interest to your readers.

Met at the Victoria Station by Mr. Forder, one of Messrs. Daniels' trusty lieutenants, we at once made our way to the offices and seed warehouses situated in the heart of the city, and there Mr. George Daniels personally conducted me over these "big" premises. In the flower seed department there are many "cases" of pigeon-holes, each case containing from 700 down to about 350 holes. There is one pigeon-hole corresponding to every number in the firm's catalogue, and as the number of different seeds described as for sale in the catalogue is about 1300, and that the pigeon-holes are reduplicated in order that four sets of workers can be executing flower seed orders at the same time, your readers will easily calculate the number of pigeon-holes required. In the vegetable department exactly the same principle is carried out, the number on each "hole" corresponding with the number in the catalogue.

It was most interesting to note the manner in which the seed Potatoes were stored ready for immediate packing. Trays made of strips from old packing cases, all exactly of the same size, are used. Placed one on the top of another, forty on the floor at eight trays high, you get a solid block of 320 trays, each tray containing five stone, and the whole block exactly ten tons of Potatoes. How many of these

blocks there were I should be afraid to say, but Mr. Daniels told me that when the vaults were filled they reckoned on having in them 150 tons.

But we must off to the nurseries; so after fortifying the inner man a pleasant drive of about two miles, through beautiful suburbs with lovely gardens containing magnificent shrubs and trees, we are landed at Mr. George Daniels' private residence, where my guide and host makes trials of Tomatoes a special study and practice. Out of a great number I noticed as particularly good Solid Scarlet, President Garfield, Horsfield's Prelude, new to me; Chemin, a new French sort; Round Yellow, Laxton's Open Air, and last, but not least, Cluster Plum and Daniels' "Very-Own." This last is excellent. I say this, not because it is of Mr. Daniels' raising; I should say the same if it were called, like one of our crack cavalry regiments, the "Devil's-Own."

Crossing theavenued road we at once enter the extensive nurseries, and make for the Potato and Pea trial grounds. Messrs. Daniels have been long known as very large growers of the staple vegetable, and have sent out varieties fixed as well as distinct in character, and which are now very largely grown, White Elephant in particular, especially in East Anglia. I saw several very promising seedlings shallow-eyed, and with a skin that looked like resisting disease. A curious seedling with black flesh, but said to be a fine cooker, named Norfolk Blackbird, attracted attention. Another fine new one was named after our Poet Laureate. Upwards of 350 varieties are being grown and tried. My attention was now drawn to the Peas, 200 kinds of which are on trial, and 100 acres of land is found necessary for the work. I was glad to find Sharpe's Queen so largely grown, ten acres being set apart for this one variety. I have grown it since it was first sent out and consider it at the top of the tree. Half an acre here of a new Pea, named Matchless, was grandly cropped, and elsewhere eight acres are being grown. I noticed this excellent new Marrowfat in a private garden in July, and the head gardener told me that he should next year grow this variety alone for his main or general crop. One more new one to be noticed and deservedly so, The Daniels, a cross between Alpha and Best of All.

Of Dwarf Beans forty-eight varieties are on trial, and of these Ne Plus Ultra and Early Black Wonder are preferred to Canadian Wonder. This last is too rank a grower, I find, in a wet season; and this year every plant that I did not carefully stake was broken off at the base of the stem.

One more vegetable I must mention, a Lettuce named Continuity. It appears to resist drought well, and certainly not one on the plot I saw showed the slightest sign of bolting. The fact, too, that this useful Cabbage Lettuce is now being grown in 5000 gardens proves that its merits have been discovered.

Next was pointed out to me a hedge 250 yards long—a hedge of the Myrobella Plum. Not only does this hedge afford a grand shelter and a handsome boundary fence, but it is put to practical use, as at intervals of 6 to 12 feet a strong single stem is allowed to grow, and each is budded with either the Victoria or the Czar Plum. Now, when we come to realise that the Myrobella is infinitely superior to the ordinary White Thorn, for a capital fence can be made with it in three or at the most four years, I am not surprised to find that the supply is barely equal to the demand, and yet in these nurseries I saw one breadth of seedlings from 3 to 5 feet high in number upwards of 200,000, the seed having been sown only in April last. Those from cuttings are not so satisfactory. Landlords and farmers ought to take advantage of every opportunity to buy this Plum—(1) for repairing old fences; and (2) for making new ones; and they should adopt the plan of having a profitable Plum tree at 9 or 12 feet intervals. At five plants to the yard (and this is sufficient), the cost is 15s. a 100 yards. Nine years ago the present writer when living in Worcestershire filled up great gaps in fences with this Myrobella, and in four years they were impenetrable to cattle. This Plum is also used as a stock for Prunus Pissardi, a Japanese Plum with very dark purple foliage, which, owing to its rapid growth, is likely to rival the Purple or Copper Beech in gardens and plantations.

Apples and Pears in all forms are largely propagated, the culinary kinds most popular in the Norwich district (so the fruit-tree foreman told me), being Warner's King, Keswick Codlin, Lord Suffield, Cellini, Stirling Castle, Ecklinville Seedling, Norfolk and Striped Beefing, Mère de Ménage, Peasgood's Nonsuch, Normanton Wonder or the Wellington of the London Markets, Norfolk Bearer and Beefing, Jolly Beggar, The Queen, and Lane's Prince Albert; while among the table fruits Cox's Orange, Ribston, Court Pendu Plat, Fearn's Pippin, Adam's Pearmain, Kerry Pippin, King of the Pippins, Sturmer Pippin, and Mr. Gladstone are mostly in demand. A new Apple "Vicar of Beighton" looked promising. What especially struck me was the marvellous growth made by the maiden Plums and Cherries, budded mostly, but a few grafted.

I must get to the flowers, and in passing I stayed a few minutes to watch the rapidity with which quite young lads were helping to bud the 175,000 Manettis. Flowers indeed! Over a mile of single Dahlias, and two miles of Dahlias altogether. Among the Show varieties especially good were Crown Prince (buff), Mrs. Gladstone, Primrose Dame, Mrs. Langtry, Colonist (grand), and two new ones, J. C. Vaughan and Coronet, appeared promising. Among the Fancies a new one named Comedian took my fancy. The new Cactus, Harry Freeman and Crimson Beauty, were to be seen in excellent form, while among the new singles, Eclipse, Northern Star, and Miss Glasscock appear likely to be useful. Raisers of Decorative and single Dahlias must, however, be very careful to, in the first case, keep as close as possible to the true Juarezi type, and in the second case strive towards the smaller rounded



flowers, after Duchess of Westminster and the newer seedlings raised by Mr. T. W. Girdlestone.

Godetias have for years been a specialty in these nurseries, and very shortly, unless I am a false prophet, we shall have a pure yellow one; already it is far yellower than Lacharme's yellow H.P. Rose Gloire Lyonnaise. Immense breadths of Godetias are grown, Duke and Duchess of Fife, Bridesmaid, and General Gordon among the newer kinds being very noticeable. A rapid look through the houses to see some grand Coleuses, Tuberous Begonias, Zonals, Lilies (magnificent), especially speciosum Krætzneri and auratum rubro-vittatum, Balsams, a grand strain (of which Mr. Bishop, the Superintendent of this department, has reason to be very proud), Crotons, &c. At last I was obliged to tear myself away from the flowers and my courteous and friendly guides. To Mr. George Daniels and Messrs. Forder, Upstone, and Bishop my best thanks are due for many pleasant hours spent in the city of gardens.

After seeing what I did I was not surprised to find that Messrs. Daniels Bros. found it necessary to have a distinct business department for their home counties of Norfolk, Suffolk, Essex, and Cambridgeshire.—CASUAL VISITOR.



LARGE AND SMALL GROWERS.

I REGRET that "An Exhibitor" in his last letter has shown a want of courtesy in his statements concerning myself. It is certainly a good way to get the last word, as I cannot follow him into personalities; but on the contrary, if I have made any wrong statement I am ready to apologise. I was certainly under the impression that the matter in question did not come before the last general meeting. I heard nothing of it, either as a committeeman or as a private member. If I think that no just grievance exists, and he and others think differently, it does not therefore necessarily follow that either I or they are right. I am quite willing that the matter should be thoroughly ventilated and tested; that it should be properly brought before a representative meeting, advocates heard on both sides, and a vote taken, and I, for one, will loyally submit to the result.—W. R. RAILLEM.

P.S.—Please allow me to correct a statement in the account of our visit to Mr. B. R. Cant. He does unfasten the ties of his budded standard stocks. He fancies he may be a little deaf, I don't think he is, but am sure that I am; hence perhaps the misconception.

## THE JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.

PART 2 of vol. xiii. of this Journal is just to hand, and contains several papers of considerable interest, together with reports of the Society's proceedings from February 10th to May 12th, 1891; also including a report of the Temple Show. The papers comprise the following:—"Persian Cyclamen," by Mr. W. Warren; "Hardy Cyclamen," by the Rev. W. Wilks, a very interesting review of the species, their character, and culture; "The Germination of Cyclamen" is well treated by Dr. M. T. Masters, and illustrated. To "Snowdrops" three excellent papers are devoted by Mr. James Allen, Mr. D. Melville, and Mr. F. W. Burbidge, the illustrations being numerous. These are followed by the "Cultivation of Hardy Bulbs and Plants," by Herr Max Leichtlin; "Lachenalias," by Mr. F. W. Moore, an exhaustive essay on these useful plants; "Cape Bulbs," by Mr. James O'Brien; and an important illustrated chapter on "Hybrid Rhododendrons," by the Rev. Prof. Henslow.

The remarks by Mr. Warren on the culture of Persian Cyclamen are brief, and give the outlines of such successful practice that we are tempted to reproduce them.

I have been honoured by receiving an invitation to read a paper on the cultivation of the Persian Cyclamen, and I will at once proceed to describe the method of cultivation as pursued at Worton Gardens, Isleworth, without for a moment assuming that it is necessarily the best or the only desirable method. First, let me say that the old corms left from the previous season are not considered worth the trouble of further cultivation, but are sold for the purpose of extracting the cyclamine they contain. With regard to the plants reserved for seed, of course the best are selected—viz., those that combine the qualities of large, good-shaped, five-petalled flowers, bold foliage, and dwarf growth. The flowers of the selected plants are daily hybridised (when there is any pollen) with the finger, and the plants, potted in 48's, are not allowed to bear more than six seed-pods, or the seed and its offspring would be weak. We cannot always be sure of obtaining six pods, as occasionally some of them decay unexpectedly. The seed ripens about the middle of May, when it is collected and placed in the sun, so that it may be well matured, otherwise it germinates slowly.

The first week in June the seed is sown in pans 1 foot square (as these are found to afford more available space), with plenty of crocks for drainage. The most suitable soil is a mixture of two-thirds Hamp-

shire yellow fibrous loam, one-sixth decayed leaves (not leaf mould) rubbed through a half-inch sieve, and one-sixth coarse Thames sand; the decayed leaves, or the coarse siftings of the loam, being placed over the crocks. The seeds are carefully sown, so that two are not close together, otherwise the seedlings weaken each other as they develop. The pans are then placed in a one-pipe pit, which is covered with mats to keep it dark, and kept at a temperature of about 75° Fahr. The pans are daily looked over to see that the soil does not become dry, as is often the case at the sides of the pans. In about six weeks the young plants appear; the pans are then taken to a greenhouse and placed at near the glass as possible, damped morning and evening, and shaded from the sun. One hundred pans are generally sown, so as to give an abundant supply, and enable us to reject the weakest plants, although it is found that the most precocious plants produce the worst blooms.

About the end of September the seedlings are pricked out in the same sized pans, three dozen in each, with the same soil and treatment as before. Towards the end of November they are transplanted into thumb-pots, no change being made either in soil or treatment. The plants in these two stages are kept at a temperature of 60° Fahr., and the thermometer may without injury be allowed to register as much as 70°. When the external conditions are favourable, air may be freely admitted to them. At the beginning of March they are repotted into 60's, or 4-inch pots, using the same soil as before, and still continuing the same treatment, with the exception of potting them a little firmer. By the end of April last year as many as 750 dozen plants had been potted off in this manner. About the end of May they are transferred to 48's, in which pots they are to bloom, but some few dozen are placed in 32's, or they bloom before they are required for market purposes.

It is necessary to keep the plants well up in the pots, but the corm should nevertheless be covered with the soil. At the last potting the soil is changed, being composed of five-sixths loam, one-twelfth Thames sand, and one-twelfth decayed leaves. The plants are then potted as firmly as possible without pressing the corms, whilst in all the former stages (except when they are placed in 4-inch pots) they are transplanted and potted as lightly as possible. It is surprising what a quantity of water Cyclamen will take with advantage during the summer months; hence it is necessary that the drainage for both pots and pans should be as perfect as possible. The plants are not left too long in the pans and various sized pots before they are repotted, otherwise they are found to be slow at starting again after transplanting. As the sun's power decreases, it is essential that great care be taken with the watering. Overhead damping is discontinued for fear of fog, and only those plants are watered which are seen to be dry. Some of the plants at the beginning of October have a good show of bloom; they are then staked with Currant prunings, on account of their neutral colours, and are tied round with dark carpet-thread, after which they are despatched to Covent Garden Market.

It is of the utmost importance that the plants be kept in every stage of their growth free from aphids or green fly, caterpillars (which latter vary in size, colour, and number according to the heat of the weather), and thrips. Incessant care is required to keep these pests in subjection, as without it the plants may soon be spoiled, in which case all previous effort and expense are lost. Mice, too, as the autumn approaches, are very mischievous; but they may be trapped before they have time to make any noticeable depredations.

Most of the greenhouses at Worton Gardens contain about 3000 cubic feet. Upon an average the Cyclamen plants are placed about 18 inches from the glass upon beds of damp ashes, as it is found that they thrive so much better in such a position during the summer than when placed on dry shelves. In September, however, as the plants become larger and the weather cooler, they are placed on shelves; the floor of the greenhouses is kept wet, and effort is made, by shading, to prevent the plants becoming limp. The plants are kept in a temperature of about 50° Fahr., and plenty of air given to them, even at night, if the external temperature will then admit of ventilation. To keep the plants perfectly free from insect pests in the first three stages of growth, Cliban and Sons' fumigating rolls are used, for the plants are so lightly potted that if dipped in any solution the soil would fall away. In the last two stages George's tobacco juice is used, and the solution is made in the proportion of four parts of soft water to one of tobacco juice.

## USEFUL HARDY PLANTS.

WE now have such an abundance of effective plants suitable for culture in borders and to yield supplies of flowers for cutting purposes that it is difficult to make a selection of the best. The following will, however, be found of special value for the particular situations and purposes named.

### SENECIO ELEGANS.

The old-fashioned Senecio elegans, now called Jacobæa, but which is really a species of Groundsel or Ragweed, is a delightful addition to the borders, especially the newer varieties. Those with double flowers are perhaps the greater favourites generally. The colours vary from crimson to pure white, and any tint can be had separately. They grow from 9 inches to 1 foot high, the deep green of the leaves providing a good base for the flowers. Although they succeed well in most cases sown where they are to flower I generally manage them best when sown in a cold frame early in April, afterwards planting them out. In a younger



stage slugs are troublesome if the weather is showery at the time when they emerge above the soil.

#### THE PERENNIAL GERANIUMS.

As border or rockery plants, where space in the latter position can be found for them, the perennial Geraniums, of which there are fully one hundred varieties, are interesting and worthy of attention. Flowers are produced early in spring, and continue until the end of summer. *G. Endressii* is one of the best. The colour of the flower is a light rose, having darker veins; height from 1 foot to 2 feet; habit, compact and free in flowering.

#### ACHILLEA MILLEFOLIUM.

There are two distinct forms of *Achillea millefolium roseum*, one of a rich rose colour, and the other a dull shade of the same tint, but as compared with the former might be more correctly called lilac. Those who happen to be in possession of the latter should lose no time in making a change. The deeper coloured variety provides a charming show in the herbaceous border, where it continues to flower during a considerable period, commencing early in June. No plant is more easy of propagation; in fact, my difficulty is to keep it within bounds, so freely do the creeping rhizome-like growths extend.

#### PERENNIAL ASTERS.

Perennial Asters are commencing to unfold their blossoms, which is a warning that autumn is at hand. They are charming hardy plants, requiring but a minimum of labour to keep them in order, but they give a maximum of flower in return. One of the best, if not absolutely so, is *A. amellus bessarabicus*; the flower heads are large, of a rich deep purple blue, lasting an extremely long time in a cut state in water. The habit of growth is compact, erect, and stiff, requiring but little assistance in the way of stakes. *A. ericoides* has minute flower heads, but that is balanced by the large numbers borne on stems 2 to 3 feet long; the colour is a dull white with a yellow eye. *A. ptarmicoides* is another of the small-flowered varieties which expands its blossoms early in September.

#### RUDBECKIA LACINIATA.

Where variety in the shrubbery or herbaceous border is desired, *Rudbeckia laciniata* will supply some during September. The pale yellow flower heads are showy and very freely produced upon stout stems, which branch their whole length. The foliage is bold, deeply cut also, and in conformity with the flower heads in that respect.

#### RUDBECKIA NEWMANNI.

Amongst hardy perennials for making a display during September there is hardly one which can be called superior to *Rudbeckia Newmanni*. The deep orange yellow of its florets contrasts so well with the maroon centre that this "Cone Flower" is admired by all. For cutting purposes it is a gem; a mass of it along with some light Grasses and greenery is fit for any form of vase decoration. It is somewhat strange how quickly this plant suffers from drought during the summer; it is the first to lose its leaves under a hot sun. The showery weather experienced during August encouraged a free growth, resulting in a full crop of strong flower stems and ample foliage. One advantage gained by growing this plant in the border is that it is self-supporting, and therefore does not require staking.

#### LYCHNIS CHALCEDONICA.

An exceedingly showy plant for the back of the herbaceous border where bright coloured flowers are required during June and July. Associated with double white annual Poppies the effect is capital, both growing about the same height, 4 to 5 feet. Considering the ease with which this plant can be grown the wonder is more of it is not seen in private gardens, and especially those of large size. The double variety is perhaps more valuable still, flowering during August and lasting a greater time in good condition than the single form.

#### FUNKIAS.

Funkias are more interesting plants than many persons seem to think—not perhaps on account of the beauty of their flowers, but for the great variety of colour obtainable from their foliage, which is both bold and handsome. Take, for instance, *F. Sieboldiana*; what a charming shade of glaucous tint is shown by the bold leaves when growing partly in the shade. All the Funkias are particularly well adapted for growing in the shade of trees, where so many plants refuse to grow. We have strong roots of the kind named by the water side, at the foot of rockery clumps and *Rhododendron* beds—in fact, anywhere that provides a suitable contrast in colour to the foliage. The flowers have a peculiar shade of colouring, which is rather pleasing—pale lilac or ashy grey, rather a strange combination. *Fortunei variegata* has glossy green leaves edged with white, is very striking in appearance; and so is *F. undulata variegata*. The green-leaved variety, *F. subcordata grandiflora*, with white flowers, deserves a place in most gardens. Funkias make grand marginal lines to subtropical beds provided they are not in too hot and dry a situation, they being partial to moisture at the root to give luxuriance of foliage, which is their main claim to flavour.

#### EPILOBIUM ANGUSTIFOLIUM.

The Willow Herb, *Epilobium angustifolium*, has been very gay in the wild garden, also growing among Fir trees. On the margin of a pond it is very effective; but nowhere does it show to such advantage as on a piece of moorland by the roadside, where a quarter of

an acre is densely covered with this perennial. The colour of the flowers appears to be exceedingly rich glistening in the sunlight. Owing to the rapid rate at which it spreads it ought not to be planted in the herbaceous border proper, as there is such a difficulty to banish it from the spot if desired. It is so showy that no garden is really perfect without a small patch. In good soil it grows 6 feet high, and lasts in flower a long time.

#### LYTHRUM SALICARIA.

For planting in a marshy position or by the edge of a pond the common purple Loosestrife, *Lythrum Salicaria roseum*, is one of the best hardy perennials. Its height is about 3 feet, each shoot surmounted with a flower spike. To obtain the finest effect it should be planted in bold masses, the colour of the flower being very effective at a distance.

#### CAMPANULA PERSICIFOLIA ALBA.

The white-flowered form of this *Campanula* is decidedly worthy a place in the most select collection of hardy plants. It may not be quite so valuable in some respects as the double form, but the duration of its flowers and their continuity of production stamps it as one of the best summer flowering plants obtainable. Like all members of this genus, dividing the roots is the most ready method of increasing it.—E.

### ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 22ND.

DAHLIAS were excellently represented at the meeting in the Drill Hall on Tuesday last, by far the greater proportion of table space provided being occupied with these flowers, in all the sections and in wonderful diversity of form and colours. Besides these the Pitcher Plants and Orchids furnished several attractive features, and the display of fruit was also good, though not extensive.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq., in the chair; and Messrs. Harrison Weir, R. D. Blackmore, T. F. Rivers, G. Wythes, J. Hudson, F. Q. Lane, H. Balderson, G. Reynolds, J. Willard, J. Cheal, G. W. Cummins, W. Warren, T. J. Saltmarsh, A. H. Pearson, A. Dean, W. Bates, G. Cliffe, Rev. W. Wilks, and Dr. Robert Hogg.

Messrs. J. Veitch & Sons, Chelsea, showed specimens of the Crab Apple John Downie, very attractive orange-red oval fruits of considerable decorative value; also heavily laden branches of Farleigh Prolific Damson (votes of thanks). New varieties of Melons came from Mr. G. Wythes, Syon Gardens, Brentford; Mr. Gilmour, Ingestrie Gardens, Stafford; and Mr. Tubbs, Teddington; but the Committee passed them all. Mr. Bloxham, The Gardens, Great Brickhill Manor, Bletchley, sent fine even specimens of Veitch's Main Crop Onions. The Rev. W. Wilks, Shirley, exhibited a large handsome fruit of a Pear named Marguerite Marillat, for which a vote of thanks was accorded. Messrs. T. Rivers & Son, Sawbridgeworth, had four varieties of seedling Plums, which had been dried at Chiswick by the evaporating process, and proved fairly satisfactory; but one sample was over-ripe at the time they were dried, and several fruits burst. From Mr. J. Roberts, Tan-y-Bwlch, North Wales, came excellent fruits of *Passiflora edulis*, well ripened and of good flavour (vote of thanks).

Messrs. Laxton Bros., Bedford, sent several seedling fruits, including a yellow Plum named Golden Nugget and a dark purple variety named The Shah. Seedling Apples named The Duchess of Bedford and the Harpur came from the same firm, but the last named was considered to be identical with Yorkshire Beauty. Messrs. R. Veitch & Son, Exeter, showed a dark red medium sized Peach named Lady Walrond, said to be the result of a cross between Belle de Vitry and Early Walburton. Mr. J. Gilbert, gardener to the Rev. L. R. Flood, The Rectory, Merrow Guildford, contributed two dishes of Salway Peaches, extremely handsome fruits, eleven of which together weighed 7 lbs. 13½ ozs. (vote of thanks). An admirable collection of Apples and Pears from Messrs. W. Paul & Son, Waltham Cross, comprising a fine selection of the best varieties, worthily won a silver medal for the exhibitors.

FLORAL COMMITTEE.—Present: W. Marshall, Esq., in the chair; and Messrs. C. T. Druery, R. Dean, B. Wynne, G. Phippen, G. Nicholson, C. Jeffries, R. B. Lowe, W. T. Bennett Poë, H. Cannell, C. Noble, G. Bryceson, J. Walker, J. Fraser, W. Goldring, and the Rev. H. H. D'Ombra.

As already stated Dahlias were the most prominent exhibits, amongst the flowers and plants, several large groups and collections being staged. The most effective and novel was that from Messrs. G. Phippen of Reading, in which Palms, Ferns, and Lilies were arranged upon the floor of the Hall, and amongst these rose elliptical sloping stands of Cactus Dahlias, which showed the flowers to great advantage (silver-gilt Flora medal). To Messrs. J. Cheal & Son, Crawley, a silver Flora medal was adjudged for a grand collection of Dahlias in all the sections. A silver Banksian medal was accorded to Mr. T. G. Ware, Tottenham, for a bright and beautiful group of Dahlias and the floriferous white treecarnation La Neige. A similar honour was secured by Mr. Arthur Rawlings for a handsome collection of Dahlia blooms, in which Show varieties predominated, and a bronze Banksian medal was adjudged to Mr. J. T. West, gardener to W. Keith, Esq., Cornwall, Brentwood, for a beautiful exhibit of the Dahlias which he grows so well. Messrs. H. Cannell & Sons, Swanley, had a choice selection of new Cactus Dahlias, and Mr. C. Turner, Slough, also had several stands of novelties of the Cactus, Show, Fancy, and Pompon types. Mr. G. Humphries of Chippenham sent seven boxes of Show, Fancy, and Pompon Dahlias,



fine clean well developed blooms. W. Marshall, Esq., Bickley, was awarded a cultural commendation for a fine specimen of *Nerine flexuosa* with about twenty scapes of flowers.

Two important groups were submitted by Messrs. J. Veitch & Sons to the Floral Committee, one of these comprising a series of varieties of *Elæagnus*, of a highly ornamental character, the other consisting of Pitcher Plants, Droseras, and allied plants to illustrate the lectures on insectivorous plants. Mr. J. Walker, Thame, Oxon, had a large collection of Improved German Quilled Asters, the blooms very neat in form and varied in colours (bronze Banksian medal). Messrs. W. Paul & Son contributed a beautiful collection of Roses for such a late period in the season (bronze Banksian medal), and Messrs. H. Low & Co., Clapton, sent a new *Lilium* named *claptonense*, with one medium-sized yellowish flower at the apex of the stem. From Mr. R. Owen, Maidenhead, came a large collection of early Chrysanthemums, including many novelties of much promise; and Mr. T. Godfrey, Hillingdon Nurseries, showed a plant of *Chrysanthemum* Miss Whiteley with long narrow white florets.

ORCHID COMMITTEE.—Present: Dr. M. T. Masters (in the chair); and Messrs. H. Ballantine, H. Low, J. Douglas, E. Hill, S. Courtauld, T. B. Haywood, H. M. Pollett, J. O'Brien, F. Sander, and Lewis Castle.

The principal group of Orchids was that from Messrs. F. Sander and Co., St. Albans, for which a silver Banksian medal was awarded. This comprised several seedling variations of the fine hybrid *Cypripedium* Pollettianum and Maynardi, differing in the size of the flowers and the richness of colouring. *Lælia grandis tenebrosa* is a peculiarly dark and handsome variety, *Vanda Hookeriana* and *Odontoglossum vexillarium* were also included. T. Statter, Esq., Stand Hall, Manchester (gardener, Mr. Johnson), showed plants and flowers of *Cattleya Loddigesi splendens*, a pretty variety with rounded brightly coloured sepals and petals, *Vanda Kimballiana*, *Miltonia Moreliana atrovirens*, and *Cattleya intermedia alba* (first-class certificate). Baron Schröder, The Dell, Egham, sent flowers of the charming hybrid *Cypripedium Antigone* (certificated) with fine varieties of *Cattleyas* Dowiana and Hardyana. Captain Hincks, Thirsk, showed *Masdevallia Stella*, a hybrid from *M. coccinea*, Harryana, and *M. Estradae*, the flower pale purplish lilac, with long sepaline tails. C. J. Lucas, Esq., Warnham Court (gardener, Mr. Duncan), exhibited flowers of *Aerides Rohanianum*, *Vanda Sanderiana*, *Cattleya Schofieldiana*, *Cattleya bicolor*, and *Odontoglossum Pescatorei*. Messrs. W. L. Lewis & Co., Chaseside, Southgate, showed a fine dark *Cypripedium* Harrisianum and *Masdevallia Gaskelliana*. Messrs. Seeger and Tropp, Dulwich, exhibited a plant of *Grammatophyllum Seegerianum* from the Molucca Isles, which was thought to resemble *G. multiflorum*; and Messrs. Pitcher & Manda, Hextable, had a small group of Orchids comprising *Lælia Eyermanniana*, *Cattleya maxima*, *Burlingtonia fragrans*, and *Cypripedium Harrisianum Rougieri*.

#### PLANTS CERTIFICATED.

*Cypripedium Antigone* (Baron Schröder).—See note and figure on pages 262 and 263.

*Cattleya intermedia alba* (T. Statter, Esq.).—Chiefly notable for the pure white of the flowers, which are of good size and form (first-class certificate).

*Rhododendron Ceres* (J. Veitch & Sons).—A fine variety with large flowers, having broad round lobes of a rich clear yellow tint. A grand acquisition.

*Cuphea Llave* (Pitcher & Manda).—A peculiar little plant, 9 to 10 inches high, with elliptical acute leaves, the flowers with long green and reddish tubular calyxes, covered with dark hairs, small brilliant scarlet petals, each having a black spot at the base, and the stamens covered with purple hairs (botanical certificate).

*Dahlia Mrs. Ocock* (Mr. A. Rawlings).—A distinct Fancy variety of good form, the florets yellow tipped with purple.

*Dahlia Draughtsman* (Mr. G. C. P. Harris).—A Show variety of neat form, and of a peculiar deep reddish tint.

*Dahlia Mrs. Walter Besant* (Mr. T. S. Ware).—A Pompon variety, white tipped with deep purple.

*Dahlia Nellie Mackray* (Mr. T. S. Ware).—Another of the same type as the preceding, but of a rich orange shade.

*Dahlia Toxstone* (Mr. C. Turner).—A fine Fancy Dahlia with bronze yellow florets tinged and streaked with red.

*Dahlia Ada Rehan* (Mr. C. Turner).—One of the Show type, of excellent shape, the colour a soft lilac pink.

*Dahlia Lorna Doone* (Mr. C. Turner).—A neat Pompon, bright crimson purple; *Mars*, a brilliant scarlet variety of the same type; and *Cecil*, also a Pompon, bright red tipped with white.

*Dahlia Sultana* (Mr. C. Turner).—A Cactus variety of medium size, and peculiar terra cotta shade tipped with white.

*Rayon d'Or* is another of the same group; white edged with bright red.

*Dahlia Little Sarah* (Mr. Humphries).—A pretty Pompon variety; yellow tipped with purple.

*Elæagnus pungens maculatus* (J. Veitch & Sons).—An ornamental shrub, having the leaves creamy white and yellow in the centre, edged with green (first-class certificate).

*Dahlia Ernest Cannell* (Messrs. H. Cannell & Sons).—A fine bright red Cactus variety. *Mrs. Thornton*, from the same, is one of that type with broad florets of a soft rosy purple tint. Both are valuable varieties, as also is *Sir Roger*, very bright and effective.

#### "SWEET BLOOMING LAVENDER."

Most people like Lavender, "sweet blooming Lavender," and we know that old Isaac Walton loved it; for does he not take his friend Venator to an honest ale-house, where was "a cleanly room and Lavender in the windows?" and do we not read why that friend was willing to stay the night there with them, "for the linen looks white and smells of Lavender, and I long to lie in a pair of sheets that smell so?" and why Coridon, too, was pleased with the place, "for here are fresh sheets that smell of Lavender?" Well do we, also, enjoy the smell of it when in cottage gardens we come upon its untrained bushes amongst a wilderness of homely flowers, all tangled up together—such as Larkspurs, Lupins, and Clove Carnations, Pansies, Gillies, and Cabbage Roses, Candytuft, and Pinks; and even though these gardens might be hedged in with Sweetbriar and Honeysuckle. How our thoughts go back then to the long ago! to the Musk, red Rose leaves, and aromatic herbs that the old dames used to treasure—to that still-room, too, where they made such fragrant compounds, and to those presses where they placed, amongst their clothes, their tiny bags of sweet Lavender; a time of flower-chintz dresses, starched linen, and quaint mob-caps.

Truly has Lavender had many advocates, and it still is valued for its charming scent. Few plants, indeed, have a more welcome scent, and hence we in July always look for "the Lavender girls," who, with their musical cry, come selling; but this time they have missed their season, for, though there was some Lavender last month in Covent Garden—from Hitchin in Hertfordshire, and from Henley-on-Thames, where it blossoms very early—it is only recently that it has freely been sold in the streets, the growth being late in Kent and Surrey, and in parts almost a failure. Time was when townsfolk in London went to Mitcham Fair—the three days' pleasure fair upon the green—to wander by the church into "the fields" to see "the cutting," that fair being held in August; but now, about ten acres only of that sweet smelling crop are grown in once-famed Mitcham. Formerly, "the Lavender country" extended from Croydon to Battersea—hill, road, and "sweep" at Clapham Junction has there the term of "Lavender;" but Beddington, Banstead, Carshalton, and Wallington grow less and less of it now each year, in part owing to the increased value of the land there for building purposes, and partly because very much of it has been so long cropped with it that it will not now grow it any longer. Grown on a small scale at Henley-on-Thames and in Kent, as also on a larger area at Hitchin—where, though cultivated as far back as 1568, not much trade was done in it until 1823—it used also to be met with at Market Deeping, in Lincolnshire, but it is there no longer planted.

Mitcham oil of Lavender, "Mitcham" being the generic term for the whole of that district, has always commanded, with other oils made there, the very best price in the market, the Lavender from Germany being so far inferior. The present price for "best Mitcham," that is last year's oil, is 54s. per lb., but in previous years it has been as high as 126s. and as low as 29s., as it of course varies greatly according to bulk and quality, as was shown in the scarce year of 1879, when the price went from 34s. to 100s. The greatest growth of Lavender, in recent years, was in 1874 and 1887, the Jubilee year; and the smallest, in those years when there was a hard winter or a cold summer; and the present year from the latter cause, has made the crop a late and slight one. The best fields used to grow it for some years, without fresh planting, for four or five years have some good grounds grown it, but now, as Lavender, like Clover grounds, at times, gets "sick," and will no longer crop, a fresh planting each year is almost the rule. In planting Lavender, the ground selected should be dry, light soil, full to the sun, and open, as it will not grow in shade, and the higher it lies the better; but it must not be too good nor too rich, or it will grow leaf instead of blossom. Cuttings are best, not roots, and they take six weeks to strike; and they are grown in rows that are struck with a plough, and that are from 1½ to 3 feet apart, the ground being afterwards worked with hoe and spade, and the soil thrown up against them. Then, when ready for "bunching," they are reaped with a sickle, in just the same way as Wheat, only the stems are held straight, and are cut close to the root. Two men are engaged in the work, as one ties while the other sickles; three handfuls forming one "bunch," and six bunches one "bundle," which must be of the weight of quite 24 lbs., and practice will hit it exactly. The price for these bunches has rapidly risen from 2s. 6d. to 8s. per dozen, and in some years it has been higher still, 10s. to 12s. for that quantity being asked and given. This cutting for bunching lasts a month, and the work in the field then stops till the second week in August, when that breadth of the plant which has been reserved for the still is cut and laid loose in mats, which, when filled and skewered up and carted, are taken to the distillery. There, the Lavender is placed in the copper, trodden, as a man treads Hops, and damped, 120 gallons of water being used to a still that will hold 1200, so that the whole of it shall be kept from burning; and with a good still, practised hands, and proper fires, it will begin to run in an hour. Then, when the water has been expressed from the bloom, the oil on the top is skimmed off, filtered, and bottled, the refuse water being poured into cans or jars, and sold on the spot at a very low rate, at even 8d. or 10d. per gallon. The finest samples of the oil, however, are made from blossoms only, and it takes 60 lbs., weight of them to yield 1 lb. of oil. There are usually three distillings, the top price being for the first one.

Most persons suppose that the perfume called "Lavender" which is sold in the shops, is the "water" that runs from the still; but it is not so, as will have been inferred, as in that state it is but on a par with that which is made from the Rose and the Elder; in fact, the name Lavender "water" is quite a misnomer, as no water is in it,



only spirit. The sweet fragrant scent sold as "Lavender water" is really a compound composed of these things: oil of Lavender, mixed with the rectified spirit of wine, and then these essences added to it—rosemary, jessamine, bergamot, otto of roses, orange flowers, and musk. But as most chemists make a speciality of it each one has his own pet formula, in the preparation of which he has always to bring to bear very much chemical knowledge. The scent has a great sale everywhere, it being a general favourite, but the largest sale effected in it is for that made by Sainsbury in the Strand and by Lunn in Worcester. In this part of the country a Lavender water is "made" by the cottagers, who each season send their cuttings, mixed with Rosemary, red Rose leaves, Musk, and Thyme, to be distilled in their market town, where it is duly made and bottled; the old dames, by the sale of it, helping out their "posies" to make up their rent. This year, though, has been a bad one for them, as also for the "Lavender girls." Let us hope, however, that this first time will be the last time that we shall have to wait till September before our ears are greeted daily with the cry of "Lavender, fresh Lavender, sweet blooming Lavender."

Lavender is a native of those mountainous districts which border the western half of the Mediterranean, and extend from the eastern coast of Spain to Calabria and Northern Africa; where, so hardy is the plant, that in some places it grows at a height of 4500 feet above sea level; and it is cultivated as far north as Norway and Livonia. Its leaves and flowers were used by the ancients to perfume their baths, and hence, as supposed, its name from *lavare*, to wash. The earliest mention of it was in the twelfth century, by the Abbess Hildegard, who lived near Bingen on the Rhine; and in the thirteenth century it was used as a medicine by the herbalists in Wales, under the name of "Llafantly." Cultivated in England chiefly for its oil, there is also a large export trade for its flowers, which are sent to America, the Barbary States, and Turkey. Lavender is so influenced by the weather that the quantity of oil to be obtained from it varies from 12 to 30 lbs. to the acre, as when, as in this year, the weather in June and July is cold and wet the yield is but half as much as when it has been bright and sunny. As oil made from the flowers only is so high priced, the bulk of it is from both stalks and flowers. Mellowed by keeping it corked tightly for two or three years it then, to prevent deterioration, is mixed with alcohol. The best French oil fetches but one-sixth the price of the English, as it is chiefly made from the wild plant, which is collected in Piedmont and the south of France, especially in the villages about Mont Ventoux, near Avignon, where it grows profusely, and in those some leagues west of Montpellier. In olden times a spirit of Lavender was used under the name of "palsy drops," as it was credited with being of service in affections of the nervous system; and at the present day we also use Lavender in the shape of spirit, nine parts of spirit to one of oil; but more often in the form of a compound tincture, composed of Lavender, Rosemary, Nutmeg, and Cinnamon macerated in spirits of wine, and coloured red with red Sandal Wood, or Red Sanders, as it is called, when it is given in conjunction with ammonia and cardamons as a stimulant in nervous affections. In New York Lavender will not flourish freely, but in Philadelphia large tracts of it are grown, the dried flowers being used mainly for scent bags, as is the case with Sweet Basil in America. In Provence Lavender is called *l'espie*, and hence the oil made there, from stalk and blossom, is in England called "oil of spike," which at one time was used in porcelain painting, as also in veterinary medicine. There are many varieties of Lavender—about twenty species if we do not err, some of which extend as far east as India. A very fragrant one is a native of Spain, and another the *Stoechas*, its growth extending from the Canaries to Asia Minor, is still used by the Arabs for coughs and spasms; and the *Stoechades*, near Toulon, now called the Isles of Hyères, owed their name to the abundance of the plant which grew there. "The Sea Lavender," which grows in salt marshes and has fine spikes of bloom, is, strange to say, wholly scentless, and the "Lavender Cotton," an evergreen undershrub, has yellow instead of blue flowers. Some of the varieties, as those with divided leaves, are with us grown in greenhouses.

Lavender, with our poet's love of flowers, has, needless to say, not been overlooked by them, and many of them touch upon it; though, as space presses, we can here but allude to a few of them. Thus Spenser mentions "the wholesome Sage and Lavender still gray," and Shenstone, "Lavender, whose spikes of azure blue shall be, ere while, in arid bundles bound." Drayton, too, deals with it largely, though mainly in reference to herb-strewing. "Some Lavender, with Rosemary and Bays, amongst these strewing kinds," and he elsewhere has this verse on it concerning strewing:—

"With Basil then will I begin, whose scent is wondrous pleasing.  
This Eglantine I'll next put in, the sense with sweetness seizing.  
Then in my Lavender I'll lay, Muscado put among it,  
And here and there a leaf of Bay which still shall run along it."

—SHELSLEY BEAUCHAMP (in the *Worcester Herald*).

## CHELTHENHAM SHOW.

SEPTEMBER 16TH AND 17TH.

THIS Society held their usual Exhibition on the above dates, and in spite of the unfavourable season the display of plants, cut flowers, fruit, and vegetables was first-class. Probably plants were never shown better at Cheltenham, Mr. J. Cypher, Messrs. Heath & Son, and Mr. J. F. Mould of Pewsey exhibiting well. The prizes in none of the classes are large, but the competition is usually very keen, and reflects

great credit on the Committee and their energetic Secretary, Mr. T. H. Packer, in working up and organising such a good Show.

For six stove and greenhouse plants Mr. J. Cypher was first for *Erica Marnockiana*, very fine; *E. Eweriana*, *Allamanda nobilis*, &c., all good; Mr. J. F. Mould occupying second place, *Erica Eweriana superba* being especially well grown and flowered. For a collection of thirty plants, in or out of bloom, Mr. J. Cypher was first for splendid specimens, some of the most conspicuous being *Croton Sunset*, *C. angustifolius*, *Kentia Belmoreana*, a magnificent plant; *Caryota sobolifera*, *Latania borbonica*, *Erica Turnbulli*, *E. Marnockiana* and *E. Eweriana*, Messrs. Heath and Son being a good second with much smaller but well grown plants; and Mr. J. F. Mould a moderate third. With eight Zonal Pelargoniums H. Chapman, Esq. (gardener, Mr. H. Sparkes), was first; Mrs. Lingwood (gardener, Mr. T. Lewis) second; and Mrs. Gillilan (gardener, Mr. A. Mansfield) third. All the plants were well flowered, but too formally trained. Eight Fuchsias.—First, Messrs. Heath & Son; second, H. Chapman, Esq.; third, Mrs. Gillilan; the plants in each case being profusely bloomed. *Achimenes* brought only one exhibitor, Mrs. Lingwood, who was awarded the first prize, an honour well deserved. *Begonias* were not of any particular merit, having the appearance of having suffered in transit.

Dahlias were very good, and the competition very close. For thirty-six varieties, distinct, Mr. T. Hobbs, Bristol, was first; Messrs. Heath and Son second; Mr. G. Humphries, Chippenham, third. Dahlias, twelve varieties.—Mr. F. Harris first; Mr. T. Hobbs second. German Asters, twenty-four blooms in twelve varieties.—Mr. S. Cooper, Chippenham, first. Mr. S. P. Budd, Bath, was a very close second. Mr. T. Evry, Bathiston, third. French Asters, twenty-four varieties.—In this class Mr. S. P. Budd was first, Mr. T. Evry second, and Mr. J. Townsend, Lower Broadheath, third. Roses, twelve varieties, cut in loose bunches.—Mr. J. Mattock, Oxford, first with beautiful blooms, and Mr. P. Rudd second; Messrs. Heath & Son third.

For black Grapes, two dishes, distinct, C. Lee Campbell, Esq. (gardener, Mr. S. T. Wright), Glewston Court, Ross, was first with fine bunches of *Alicante* and *Lady Downe's*; Canon Coventry (gardener, Mr. C. Froud) second with fine *Gros Colman* and *Black Hamburgh*; and Rev. G. Coventry (gardener, Mr. A. James) third. White Grapes, two dishes distinct, Canon Coventry first with well-finished *Muscats* and *Buckland Sweetwater*; Mrs. Southwood (gardener, Mr. F. Rea) second; Rev. G. Coventry third. In the other Grape classes Messrs. Hall, Butt, Campbell, Coventry, Cook, and Lawry were the principal prizetakers.

Collection of fruit, eight dishes.—H. C. Moffatt, Esq. (gardener, Mr. T. Spencer), Goodrich Court, was first with *Muscat of Alexandria*, *Madresfield Court* well finished, *Queen Pine*, *Williams' Bon Chrétien* Pears, *Moorpark Apricots*, *Princess of Wales Peaches*, *Hero of Lockinge Melon*, and *Jefferson Plums*; the Earl of Coventry (gardener, Mr. W. Child) second with a very good collection; W. A. H. Martin, Esq. (gardener, Mr. J. Bailey) third. Collection of four dishes.—Mrs. Lingwood first, Col. Rogers second, Mr. Greaves third. Plums, Apples, Pears, and Cherries were well shown, Earl of Coventry, Messrs. Moorman, Cypher, Campbell, Cook, Turk, Martin, Daubeney, &c., winning the chief honours. Melons were only fair, also Nectarines. Peaches, however, were well represented, Col. Rogers being the most successful in the two latter classes, and Canon Coventry with Melons.

Vegetables are always a great feature at Cheltenham, and they were up to the usual standard of excellence again this year. For nine varieties Mr. A. Cook was first with all-round good specimens, Mr. W. Evry coming second. For six varieties Rev. G. Coventry was first; Colonel Rogers second. Messrs. Sutton's prize for six dishes, Lord Sudeley first; Colonel Rogers second; Earl of Coventry third. The other vegetable classes were all well filled, and the competition close; Messrs. Webb's prizes for six dishes going to the Rev. G. Coventry, and Mr. J. G. Kitching, Burton-on-Trent. The weather was fairly favourable, the attendance appeared large, and it is to be hoped the Show was as great a success financially as it was in other respects.



## HARDY FRUIT GARDEN.

GATHERING FRUIT.—This is one of the most important operations connected with hardy fruit culture, especially with Apples and Pears that have to be kept a considerable time in the store room. If these get damaged before storing many of them will decay afterwards. It is also important that they should not be gathered before they are perfectly ripe. In order to ascertain when this is the case one or two fruits from each tree should be cut open to see if the pips are brown, and if so the fruit may be gathered at once without any danger of shrivelling afterwards, provided other precautions are properly observed in the fruit room. With Apples and Pears of the latest kinds, such for instance as *Alfriston*, *Wellington*, and *French Crab* among the former, and *Easter Beurré*, *Bergamot d'Esperen*, and *Nec plus Meuris* among the latter, it is not always possible to leave the fruit on the trees long



enough for the pips to colour much, through fear of damage by severe frost, and in late districts this year many kinds will probably have to be gathered before the usual state of maturity is reached. In all cases of this kind the fruit should remain on the trees as long as possible; a few slight frosts will not hurt it provided it is not handled until the day following, and when it is gathered a little extra care must be taken not to bruise it. Fruit should never be gathered into sacks or bags of any kind; always use moderate sized baskets and have them as smooth inside as possible. The kind called "Trucks" or "Bodges" in Sussex is one of the very best. They are made of broad strips of wood curved into a circular shape at the bottom and are easily moved about and emptied. No matter whether the fruit is to be stored or marketed at once, each one should be put carefully into the basket and as carefully taken out, for bruises are very easily made. In gathering from tall trees all the lower branches should be cleared first so that the fruit on them is not much damaged by the ladders, and in placing these against the trees they must be put as upright as possible so as not to break the branches. The fruit of both Apples and Pears should be separated from the tree by lifting it gently upwards, not breaking any portion of the tree away with it. If care is not taken in this matter the next season's crop may be seriously interfered with, as many of the flower buds will be destroyed. The season of all kinds of autumn Pears may be much prolonged by gathering a portion of each kind at intervals of a week or so, taking those off first which are most exposed to the sun. Where a continuous supply has to be maintained this system is of great service. Pears and Plums for market must not be over-ripe when gathered or they will not travel well, but must be gathered and packed early enough to keep in good condition while passing from the grower to the consumer. On the other hand they must not be sent off too green or the salesman will have them left for some time on his hands, and they will suffer considerably in appearance before a purchaser can be found. Never gather fruit of any kind on wet days or when it is moist from fogs or dews, no matter whether it is for market or for storing, and always grade and pack all kinds evenly. The smaller sizes are of no use either for market or for storing.

**STORING FRUIT.**—If Apples or Pears are to be kept until after Christmas in good condition, a building where frost can be excluded is absolutely necessary to store them in. If this is fitted with shelves so that the fruit can be spread out in single layers it will be much more convenient for inspection, and a smaller proportion will decay than would be the case if laid three or four deep. Much depends on careful ventilation, especially during the first three weeks after gathering. Many Apples will "sweat" considerably when first gathered, and if kept shut up closely will commence decaying, but after the sweating is over and the weather becomes cooler the ventilation must be diminished, merely giving a little air occasionally in very fine weather to change that of the room. A steady temperature of about 40° and a rather dry atmosphere are the chief points to aim at. In very severe weather the temperature may go as low as 36° without damage, but the room should always be a few degrees warmer than the outside atmosphere, or the warm air on entering will condense on the fruit, and probably do serious mischief. A room partly or wholly underground, if it can be kept dry, is the best position for a fruit store. Never use deal or strong smelling boards to lay the fruit on, and do not place hay, straw, or newspapers underneath it. In severe weather newspapers placed over the fruit will often prevent injury from frost, and dry clean hay or straw may be used in addition if it is impossible to heat the building in any way. Many people would be surprised to see how well the Kent fruit growers keep Apples in their hop kilns and store rooms adjoining, merely laying them in heaps a foot or 18 inches deep, and covering with straw in severe weather to keep frost away. They are never moved until required for market, as a rule very few decay, and they keep plump and good with but little attention.

Late varieties of Apples and Pears keep best if put away in drawers or boxes after they have lain for some time on the fruit room shelves. This will prevent the skin shrivelling and becoming tough, but they must be examined occasionally, and not shut up air-tight. Fruit that is to be kept should not remain in the baskets after gathering for more than twelve hours, and must then be put on to the shelves or wherever it is to remain until required for use or for market.

#### FRUIT FORCING.

**PINES.—Growing Stock.**—To maintain a healthy sturdy condition in young plants free ventilation on all favourable occasions is essential, affording it early in the day and without lowering the temperature. Keep the bottom heat about the roots at 80°, maintaining a temperature of 60° to 65° by night with 5° to 10° rise by day from fire heat. Newly potted plants should have a bottom heat of 90° to 95°, with a view to the roots speedily penetrating the fresh soil. Water the plants whenever they require it, employing weak and tepid liquid manure, and avoid the use of the syringe too frequently, merely sprinkling the paths and other available surfaces. Morning and evening will suffice in all but very bright weather.

**Suckers.**—Recently started suckers should as soon as roots are plentifully made be raised near the glass, it being essential that those intended to be wintered in small pots be brought on very gradually, but they must not be withdrawn from the bottom heat, or only for a short time, so as not to give the plants a check. When the suckers started this autumn are well rooted pot them, draining the pots well. Employ the fibrous part only of turfy loam, and do not tear it up too fine, but use it

in lumps proportionate to the size of the pots. The strongest plants may be transferred to the largest pots at once, the size of the pots being proportioned to the robustness of the plants or varieties. Jamaicas do well in 9 or 10-inch pots, Queens in 10 to 11-inch pots, Smooth-leaved Cayennes and similar varieties in 11 to 12 inches, and Providence in 13-inch pots, which will give fruit of the largest size. Where smaller plants and fruit are desired pots an inch or two less in diameter will answer. The plants not large enough for transferring to the fruiting size should be shifted into 8-inch pots, in which they must be kept until spring. Plunge the pots in a bottom heat of 90° to 95°, in which they must be continued until the roots have taken freely to the fresh compost, when they may be raised, a temperature of about 80° being afterwards sufficient. Fruiting plants should have a night temperature of 70°, 80° to 90° during the day, closing at 85°.

**PEACHES AND NECTARINES.—Trees Ripening the Fruit in July.**—The trees will now be approaching the resting period and the foliage becoming serc. Supply them with water so as to keep the soil moistened through to the drainage, but if the roof lights have been removed, the trees being in a condition to allow of its being done in August, they can remain off until the end of the year or later; but if the wood is not ripe it is not wise to expose the trees to heavy rains and snow. Assuming the wood is firm and the buds plumped it is advisable to remove the roof lights with a view to insure complete rest and the thorough moistening of the border. If the trees are very strong it is not desirable to remove the lights, and if the growth is complete and the wood not ripening kindly form a trench about one-third the height of the trees from the stem, and detach all roots down to the drainage, leaving the trench open for ten days or a fortnight, when it may be filled firmly. Young trees only require this, but older trees that have the wood very strong may be root-pruned and the roots wholly or partially lifted before the leaves have fallen. In the case of weakly trees remove the old soil from over and amongst the roots, supplying fresh rather strong loam with an addition of calcareous matter where the loam is not of that nature, making it firm and following with a good soaking of liquid manure.

**Trees Ripening the Fruit in August and Early September.**—Cut out the wood that has borne fruit, leaving no more than can be freely exposed to light and air. Cleanse the foliage of dust and red spider by water directed with force from a garden engine or syringe, and repeat occasionally. If there is scale promptly apply an insecticide, also against red spider and brown aphides, which sometimes attack the younger parts of the wood in autumn, and can be destroyed with diluted tobacco juice. There must not be any lack of moisture at the roots, therefore apply water to the inside borders as necessary to prevent their becoming too dry. Afford abundant ventilation, and if the wood is not ripening well keep the house rather warm by day and throw the ventilators open at night, but a warm, close, moist atmosphere must be avoided, as that would be more injurious than otherwise.

**Late Trees.**—When the fruit is gathered the trees will need to have the shoots thinned where too crowded, and those which have borne fruit and not required for extension can be cut out to a successional shoot at the base. This, with free ventilation and gentle fire heat in dull weather, in cold localities, and the wood strong, will assist in ripening the growth, which is of primary importance as regards next year's crop. Avoid a too dry condition of the border. The trees must not lack moisture, and yet a rather drier condition of the roots is advisable whilst the fruit is ripening. Some soft netting will be useful to save any fallen fruit, but it must be looped up in small pockets to prevent the fruit bruising each other. With an examination of the fruit every morning by an experienced person, the ripe fruit being removed, there is no necessity for the netting. The fruit is better gathered before it is dead ripe, and kept in a light airy fruit room until required. Prince of Wales is a magnificent fruit when grown under glass and in warm soils, but it is by no means satisfactory against walls and in heavy wet soils. Princess of Wales is, perhaps, the grandest of all late summer Peaches, attaining to a large size and assuming fine colour under favouring circumstances; and, though Sea Eagle is a pale fruit, its size and good qualities render it very desirable.

**CUCUMBERS.**—The plants for winter fruiting should be placed out as soon as they are ready, a good bottom heat being essential to success, whether it be obtained by the aid of fermenting materials or hot-water pipes; but a somewhat higher temperature is needed to commence with if fermenting materials are used, as the heat will decline, and there should be hot-water pipes in the bed to keep up the bottom heat when that of the fermenting material declines. The soil may consist of light turfy loam, with a third of fibrous peat, a sixth of old mortar rubbish, and a tenth of charcoal, the whole well incorporated. For imparting vigour later rely on liquid manure and surface dressings in preference to employing manure in the compost.

**Autumn Fruiters.**—Maintain a healthy and vigorous growth by a genial condition of the atmosphere. Avoid a close moist atmosphere by judicious ventilation, and do not admit cold drying currents. Keep the growths fairly thin, going over the plants twice a week for stopping and removing superfluous growths, being careful not to overcrop the plants. Be sparing in the use of water, especially over the foliage, but damp available surfaces in the morning and afternoon, gradually, however, reducing the moisture as the days shorten and the sun heat declines. Add a little fresh soil about once a fortnight to the hillocks or ridges previously wormed, applying weak tepid liquid manure once or twice a week as may be necessary. Fumigate on two or three consecutive evenings if aphides appear, and be careful not to give too much.



**STRAWBERRIES IN POTS.**—Watering the plants must not be neglected, but though plants in the open ground do not suffer from continued rains, yet those in pots are seriously injured by continued needless waterings; therefore only supply water as required, not allowing the plants to "flag," but permit the soil to become moderately dry before giving any, and then afford a thorough supply. This more particularly applies to the varieties intended for early forcing, which should soon be given the protection of frames, only using the lights in frosty weather, and to throw off heavy rains and snow, ventilating freely when the weather is mild. Any plants that have the soil very wet, and remain so for some time without watering, should have the drainage seen to, as worms, or the material on which they are placed, choke the drainage or outlet, rendering the soil sodden, in which no plant will thrive. Expel worms from the pots with limewater, and rectify the drainage where defective. The crowns are often numerous in some varieties, especially *Vicomtesse Hericart de Thury*, a number of small crowns clustering round the central one. Remove the small crowns sideways with a wedge-like piece of wood without injuring the leaves or central crown. This will concentrate all the vigour of the plant on the chief crown, and though there will be fewer trusses of bloom, there is no need to fear a deficiency of crop. There is nothing like a loose surface for Strawberries in pots, which prevents the soil leaving the sides of the pots, and admits of the water passing evenly through the ball, moistening the soil thoroughly. A little dried horse droppings or cow manure rubbed through a quarter-inch sieve applied to the surface of the pots will keep all right there. Remove all runners as they appear, also weeds, and do not allow the plants to suffer through want of room, giving them plenty of space for the full exposure of the foliage to light and air, which is essential to a sturdy growth and plump well developed crowns.

**Autumn Fruiters.**—Where early forced plants have been grown on through the summer, with a view to affording fruit in late summer and autumn, the plants will have the fruit well advanced in swelling, and will need encouragement with liquid manure up to time of the fruit showing colour for ripening, and when that takes place the plants should be placed in frames, especially in case of heavy rains, affording abundant ventilation, which will improve the quality of the fruit. Late forced plants of *La Grosse Sucrée* and *Sir Harry* are showing and swelling admirably, both being greatly in advance of *Vicomtesse Hericart de Thury*, which, though a free bearer, is small, yet very handsome for jellies, and when well thinned the fruit is improved in size whilst the quality is superior. Any of the autumn fruiters not required for some time yet may be retarded by placing them on a north border. Good fruit may be had by taking up some of the most promising of the planted out forced Strawberries, lifting them carefully and placing them in rich compost in pots. Arrange them in a frame kept close until they have pushed fresh roots, then ventilate freely, and afterwards place them on shelves near the glass in a house with a minimum temperature of 50°, and afford a free circulation of air.

#### THE FLOWER GARDEN.

**Flower Beds in Wet Weather.**—Once more the Tuberous Begonias have demonstrated their superiority and reliableness, in wet seasons especially. Heavy and continuous rains appear to benefit them rather than otherwise, whereas the Zonal Pelargoniums present a very sorry spectacle. Begonias ought always to have good room, and if any less ornamental plants are encroaching on their space trim them back at once. Marguerites are growing far too strongly, and in many cases might with advantage have a spade or long trowel run round them 6 inches clear, or rather less, of the stems so as to cut through many of the wide spreading roots, this checking top growth considerably, and they will also lift more readily later on. If the tops of these, as well as the stronger growing *Heliotropes* and rank Zonal Pelargoniums overgrow less vigorous plants near them it is advisable to trim them back somewhat, as we may yet have a brief period of dry, summer-like weather before frosts intervene. Bedding Asters, notably those of stiff, erect growth with broad flat flowers, have failed badly and are now not fit to occupy prominent beds or borders. In some cases they ought to be cleared off and the beds temporarily filled with mixed pot plants.

**Propagating Zonal Pelargoniums.**—Cuttings are only too plentiful, but they are very sappy, and more than ordinary pains must be taken or they will strike badly. A start ought to be made at once. Abundance of cuttings may be taken off without greatly disfiguring the beds, a dry day being chosen for the operation. After the cuttings have been denuded of most of the older leaves and trimmed to a joint lay them in a dry sunny place till they flag considerably, the wounds also drying. Thus getting rid of much superfluous moisture is a step in the right direction, but this is not enough. The watering after they are inserted in either pots or boxes must be deferred for several days, only enough being given to keep the cuttings from shrivelling. The commoner varieties, or those of a somewhat vigorous habit, will winter fairly well in pans and boxes; but the more delicate sorts, including the variegated and bronze Zonals, will not. Three-inch or slightly larger pots will each hold six or seven strong cuttings, and but few of these damp off during the winter. Added to this they can be arranged very thickly on suspended and back shelves in vineries, Peach houses, and other structures from which frosts are excluded, and cuttings well established in small pots also keep the best in frames and pits. It is not good policy to place the cuttings in the open this season, saturation of the soil being fatal to sappy cuttings, and the least that can be done is to set them in dry pits or frames till they are well rooted. The more

delicate tricolors and bronze Zonals struck late do not often winter satisfactorily, and with these the wiser practice is to leave the plants intact, taking care to lift and store them somewhat thickly in 7-inch or rather larger pots before they are frosted. Kept in a warm dry greenhouse few or no plants will be lost, and a good lot of cuttings be available next spring.

**Propagating other Bedding Plants.**—If no *Iresines*, *Alternantheras*, *Coleuses*, or *Heliotropes* have been kept in pots no time ought to be lost in propagating the requisite number of stock plants. There are plenty of soft young tops, and if some of these are duly made into cuttings and inserted thinly in 5-inch pots, the latter being well drained and filled with light sandy soil, they will strike quickly in a fairly brisk but not too moist heat. Cuttings from the open air plants are apt to damp off if kept too close or moist, as they are very different to the less succulent cuttings obtained from pot plants. Should the cuttings fail to strike then must the required number of old plants be potted up before frosts have crippled them. Shrubby *Caleolarias*, *Gazanias*, and *Violas* need not be propagated before October, late struck plants wintering the most surely in cold frames or pits.

#### PLANT HOUSES.

**Crotons.**—Plants that have fine heads and have become bare at the base may be partially cut through and mossed. Where they can be kept close and moist they will quickly throw out roots, and be well established in small pots before winter. Good heads mossed and rooted now make capital plants for growing on early in the year, when large finely developed plants are needed. Large pieces can with certainty, and without losing a single leaf, be taken off by this method, and are soon ready again for table and other forms of decoration. All side shoots that are rooted, and are needed for table decoration or single vases, have the heads removed after they commence forming large bold foliage. It is only by constant re-rooting that good supplies of well-furnished plants can be kept in the best possible condition in a small state.

**Acalyphas.**—Plants that have grown too tall may be mossed in the same way as advised for Crotons. Although good heads of these plants root with certainty in a suitable place, large plants can be obtained more quickly by the mossing system. There is no difficulty in taking off heads fully 18 inches in length with large bold leaves from the base to the top. If well rooted in the moss they only need a shady position for a week or ten days in a close warm atmosphere. The same remark applies to Crotons, when both may be again gradually exposed to the sun. Small well coloured pieces of these plants as well as Crotons may be rooted in small pots, for they will be found useful during the winter in association with small Ferns and Mosses.

**Panicum variegatum.**—Quantities of this plant should be rooted in small pots, the cuttings being inserted thickly and placed into the propagating frame until they are well rooted. Although these plants do not last long in good condition in rooms during the dark days of winter they are nevertheless useful for edging groups and near the margin of baskets that have to be filled with plants. Variegated forms of *Tradescantias* may also be rooted in quantity in boxes as well as in small pots. When in the latter insert the cuttings thickly, and repot them after they attain a length of 5 inches. They root quickly in any close warm position.

**Coleuses.**—Bright coloured varieties are also useful in 2-inch pots; for this purpose good heads only need be rooted and not pinched afterwards. When they grow too tall they may be re-rooted. They strike freely on a shelf close to the glass in a warm house if well watered and shaded from the sun. *Coleuses* do not last long, but they are easily raised, and are invaluable where many small plants are needed.

**Caladiums.**—Some of the earliest plants are beginning to naturally lose their foliage; these should be allowed to rest. Gradually decrease the supply of water, but do not prematurely send them to rest or place them in a cold position, as under such conditions the tubers are liable to decay. In a temperature of 60° they will be safe. Late vineries where heat is still maintained are capital places for them. Plants of *Caladium argyrites* that have had a long season of rest may be started into growth. Remove the old tubers from amongst the old soil and pot them into fresh. The most suitable sizes are 3 and 5-inch pots. After potting plunge them in the propagating frame and cover the surface with cocoa-nut fibre refuse until the plants start into growth. These plants are not only useful in pots, but the foliage is invaluable for cutting during the winter and spring months when flowers are not too plentiful.

**Selaginella Kraussiana (S. denticulata).**—A good number of 3, 4 and 5-inch pots can be made up now. The best method is to fill the pots with light soil slightly raised above the rim and dibble small pieces thickly over the surface. They grow quickly if kept moist and shaded, often succeeding as well on the floor of moist houses as when given more favourable positions.

**Gloxinias.**—Gradually withhold water from all that are showing signs of going to rest. Do not ripen them too quickly. Repot seedlings into 4 and 5-inch pots. Those that are still small should be grown on a shelf where they can enjoy a little warmth. With care these plants may be had in flower throughout the whole year. Tubers that have enjoyed a fair season of rest may be started again into growth. If a few are started at intervals of a month a long succession of flowers will be obtained.



*Gardenias.*—Thoroughly clean all plants that need it, and expose them to full light and sunshine. Do not pinch the shoots again. Insert cuttings of young growing shoots for another season's stock of plants. Where cuttings have already been rooted transfer them singly into small pots.

## THE BEE-KEEPER.

### NOTES ON BEES.

#### FEEDING BEES.

As we have taken all the honey the bees had stored for their winter use no time must be lost in feeding them up, but not too fast, or the combs may break down; a pint of syrup of an evening will be sufficient. What is called a fast feeder should be used, as the bees get the syrup down from this with less trouble; these can be obtained from any appliance dealers, but be careful to see that they have a tin tray, or there will be trouble with their leaking. At a future time I will give illustrations and a fuller description of feeders.

#### CONTRACTING THE ENTRANCE.

Before leaving the hive, after having put on the feeder and made all warm and secure at the top, the entrance should be contracted to about an inch in width, which the bees can more readily protect than if wider, for it is likely that robbers may be attracted by the excitement caused by the feeding.

#### THE NUMBER OF FRAMES TO BE USED.

The following afternoon, before filling the feeder, examine the frames, and ascertain how many frames the bees can cover on both sides; crowd them on these, that both sides of the foundation may be drawn out at the same time by putting a dummy on either side of the required number. If these instructions are attended to and the bees regularly fed every evening they will be built up into a strong colony before winter, and come out strong in the spring.

#### FRAME HIVES.

If there are already several frame hives in the apiary an additional colony is easily established by taking a comb or two from each, furnishing the new colony with six or seven frames full of combs instead of frames of foundation.

#### SAVING THE BEES LABOUR.

The less work the bees have to do at this season of the year the better will they go through the winter, and the least spring dwindling will there be. If the frames of comb are supplied to them they will not be called upon to secrete any large amount of wax at this time of year. Should we have any spare combs we need not rob other hives. The bees may be saved considerable labour by having the combs filled ready for them. The following is a simple way of doing this, which I suggested at one of the conversaciones of the British Bee-keepers' Association.

#### FILLING FRAMES WITH SYRUP.

Take a box the depth of a hive that will hold two or more frames side by side, and hang in the frames as they will be in the hive; put it on a table as nearly level as possible, then pour the syrup very gently into the box at one end; as it rises in the box the cells will be filled, the air being driven out as the syrup rises. The bees, when put in the hive as before directed, will soon clean up any syrup on the sides of the frames, and will in due time seal up the syrup.

#### PURCHASING DRIVEN BEES.

At this season of the year any quantity of driven bees can be obtained from 1s. to 1s. 3d. per lb., with their queen. Four to five pounds will be sufficient to establish a good colony if treated according to the above instructions.

#### FOUL BROOD.

As there are many districts in which foul brood exists, great care is required, and a written guarantee should be had with any bees purchased that those in the apiary are healthy and that the neighbourhood is free from foul brood.—JOHN M. HOOKER.

### ARE PUNICS ROBBERS?

On page 253 "A Lanarkshire Bee-keeper" seems satisfied that Punic bees are determined robbers, although I have several times stated the contrary. It certainly seems strange that I have not noticed this "robbing" propensity with thirty stocks headed with imported queens, besides hybrids; and if "A. L. B. K." had not given the clue by saying, "I contracted the entrance of every hive," I should have been at a loss to account for the difference of opinion between us. Now, strange as it may seem, I have several times proved conclusively that nothing incites what is called "robbing" sooner than a "contracted entrance" in any variety; enlarge the entrance, and robbing will quickly cease, the reason, of which I will explain under another heading.

Amongst the qualities of Punics I say "they search out sweets and carry them off anywhere," and so strong is this instinct developed in them they will just swarm on exposed honeycomb when honey is plentiful, at which time it is well known native bees will not touch it. Another thing, if a piece of honeycomb or other sweets is exposed, or even given to any other race of bees, Punics will quickly take sole possession; they do not seem to fight for possession, but work themselves in until they are packed so close round it other bees cannot get in. Bottles of syrup inverted on hives will quickly have a thick rope of bees round the neck, while a bottle of syrup covered with a piece of glass stood right way up will soon be found full of bees, having got in by forcing the glass up and creeping in. I think it is this propensity which our friend has noticed, and has mistaken for "robbing," or which I should call stealing. What I mean is—bees that prefer to gather their stores from other hives instead of in the proper way, as I have often noticed Italians and Cyprians do, particularly Italian hybrids, fetching out the honey as fast as the industrious bees collected it. I do not call it "robbing" to clear out exposed combs or an unprotected hive, but while the combs are protected with bees—even a very few—and bees excited over feeding bottles on a few hives, I have not known of one case in which a weak but protected lot of bees have been cleared out or even attacked, providing there was no excitement inside.

#### SMALL ENTRANCES INDUCE ROBBING.

Some years ago I explained the cause of this—viz., that when the entrance was too small the bees had to do extra fanning to ventilate the hive, and bees had to spread themselves out more on the combs. This fanning attracts strange bees either by the noise or smell of the exhalations. I am about sure it is the noise, and they seem to regard the stock as one in which they can enter and carry off what they like. Expand the entrance or set up a current of air through the hive, so that it can be ventilated without so much fanning, and the bees soon put themselves in order to protect their property.

The orthodox entrance is one,  $\frac{3}{8}$ -inch high by 6 inches long, with slides to contract it, so that only one bee can pass at a time. The proper kind of entrance should be  $\frac{3}{4}$  inch or 1 inch high, then cold air can enter at the bottom and warm air pass out at the upper edge without any fanning by the bees. It is not the length of entrance that is wanted so much as the depth. When people ask me what kind of an entrance is best I tell them "One that a rat can get through, and the worst one that will keep a mouse out." Years ago I used to be much troubled with so-called robbing, but as soon as I was satisfied that entrances  $\frac{3}{8}$ -inch deep was the cause I have not been troubled since at any time or by any kind of bees, though I have been much troubled by some kinds fetching honey out of hives when bees have been busy gathering it, at which time they do not seem to protect themselves.

A very large or wide entrance has never in my experience provoked an attack or failed to stop one, but when too wide or too large it reduces the internal temperature too much; hence I do not expand more than is necessary, and if "A. L. B. K." will act on this hint, I think he will fail to prove Punics to be "robbers."

#### SIZE OF PUNICS' HONEY SAC.

"A. L. B. K." wishes my help in investigating the size of this, which is certainly very much larger in proportion to their size than



any other bees. I think Mr. Bonner-Chambers would be more fitted to do this work than I should, and I suggest that he prepare a table, giving the weights of 1000 bees of each variety, with full and empty honey sacs. I don't think Punics will be found to have sacs larger than others, but I am satisfied that their sacs are as large as those of any other race, and they can carry this heavy load with the greatest ease. Nuclei I left at home for queen-rearing have filled their combs with Heather honey, the nearest point to which was fully five miles, and what is more they did not "drop" in a tired condition when they reached home. The honey was Heather honey, so there was no doubt in the matter.

#### THE HEATHER HONEY HARVEST—PUNICS V. NATIVES.

Owing to the bad season all Punic queens, whether old or young, had ceased laying, and all brood was hatched when work was begun on the Heather for the first time this year on September 7th—a month later than it should have been. I left home for a few days, paying them another visit on the 12th to find all empty combs full of honey, averaging 5 lbs. weight each. A friend has an apiary of natives close to my Punics, so I was able to compare one with the other. I did not notice that Punics had more honey than natives compared to their numbers, as I could not expect them to do during a Heather glut, when it is like getting honey from lakes, not casks; but I did find a vast difference between the two kinds. Natives had worked from the centre, filling up the brood nest, completely crowding out the queen, which means a few old bees for winter and no empty comb to cluster in. Punics had worked from the outside of brood nest, well filling supers and outside combs. The queens were again in full laying with large brood nests, and even lots of drone eggs had been laid; this, of course, means lots of young bees and empty combs for winter, without honey all round them. Abbott once had an idea that bees put their honey the farthest from the entrance, but no one has ever verified it till now. Punics do this, going into and working in supers at once, in preference to storing honey below, reserving this for the queen until they are crowded out for honey space. All who have tried Punics agree that they take to supers the quickest and work in them the best; Carniolians and Cyprians are worse than natives in this respect. Of course I am not yet ready to compare the two kinds for the season. The weather suddenly changed on the 15th, since which it has been unsettled, which will give Punics the advantage.

#### THE VALUE OF THE HEATHER TO BEE-KEEPERS.

There is an idea that one has to live near the Heather to reap any benefit from it, while as a matter of fact there is not a place in the British Isles that it would not pay well to send bees to the Heather, even if they had to be all sent to Scotland, providing they were in hives that could be made safe for the journey. Where do we find any hives exhibited at shows that can be sent even short distances with profit to the moors? Five or six hives are as many as can be taken at once, and this number requires more trouble to pack than the profit would come to. Most of my hives are on the "long idea" type, double walled, holding twenty frames in bottom, yet I can load up sixty on a dray, with supers on, roofs, and stands. When I see people explaining the wonders of some of the hives at shows it is a fine joke to just ask how they are packed up for a journey to the Heather.

The Heather honey harvest is more certain and more plentiful than any other; it practically failed in 1888, was bad in 1885 and 1881, but I know of no other failures the past fifteen years, while some years, such as 1883 and 1884, the flow lasted four weeks; 1886, 1887, 1889, and 1890, each lasted seven days only; but seven days flow is quite sufficient to fill all combs covered with bees.

How are bee-keepers to reap the advantage of the Heather if they can't get hives? It is as easy and cheap to make hives adapted for migratory bee-keeping as any other if makers knew how to make them.—A HALLAMSHIRE BEE-KEEPER.

#### BEEES AT THE MOORS.

THE fine weather which we experienced from the 8th up to 13th September gave way to showery weather on the 14th, and has continued since, giving seven fair days only for upwards of two months. As I am preparing for returning home with my bees my time is limited, and the stock of paper exhausted, necessitating brevity, and I must delay my latest experience with regard to robbing bees and test trials with Punics and other varieties till another issue.—A LANARKSHIRE BEE-KEEPER.



\* \* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Mildew on Vines (F. J.).**—The name of the mixture—Anti-Blight—was mentioned in the article, also the London agent, Mr. Peter Barr, and particulars for using are supplied with the material. We are informed by a gardener that it has destroyed the mildew on his Vines. Mr. Barr's address is 12, King Street, Covent Garden, London.

**Abnormal Peach (J. Selden).**—The specimen you have sent is curious, but not unusual. It is caused by the union of two ovaries, one of which has undergone but a partial development, while the other has assumed the normal size and form. We are glad to know that you have been so successful by following the instructions we gave you on the management of your Vines.

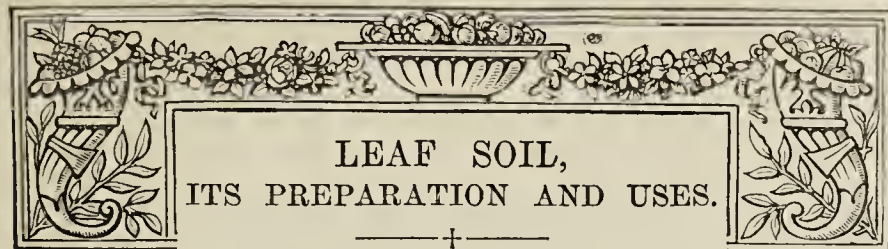
**Muscat of Alexandria Grapes Shrivelling (B. C.).**—The cause of the berries shrivelling is a deficiency of moisture until they were sufficiently advanced in ripening, with probably a deficiency of heat and of light to insure their thorough maturity. The check consequent on the breakdown of the heating apparatus a month ago is sufficient to account for the shrivelled condition of the berries, as they were imperfectly swelled and ripened. Nothing will now restore them to freshness, but we presume the shrivelling is confined to the small berries, the larger ones being plump. Make sure that there is no deficiency of moisture in the border. If fairly moist it is sufficient; if dry afford a supply, covering with dry material so as to prevent evaporation.

**Rods of Vines (I. M.).**—You ought to cut away the rods of the old Vines as soon as the leaves have fallen, and the young canes may be trained in their place. It is not wise to treat the Vines on the annual rod system. We should cut the present canes back to a third the length of the rafter, and depress the upper part before the eyes start, so as to cause the lower buds to break, and when they have done so the cane may be secured in position. Train up a shoot from the upper part in continuation of the rod to the top of the house, and this may be treated similarly to that of the previous year. In this way you will have a new rod in three years, the fruit will be borne on spurs after the first year, and they can hardly fail to fruit satisfactorily for some time, only do not keep them too closely pinched, and do not prune closely. The long rod system is not suitable for general practice, but a modification of the rod-and-spur system is most advisable as securing the best results.

**Beetles (Subscriber).**—The beetles you enclosed for our inspection are examples of a species called *Mezium striatum*; it is considered a native, though some entomologists regard it and another kindred species as being originally importations from abroad. It is singular that you should suppose the specimens are foreigners, because if you are right visitors of the species do arrive here from afar, and it may not be indigenous. The species is curious because of its globular body, almost hiding the head, and wing cases thickly covered with a glossy velvety pile, which is of two kinds, and soon rubs off; also it has much the appearance of a spider. Usually it is found about cupboards or closets in old houses, and like its not very distant relative the death-watch (*Anobium*) has been presumed to be a feeder on wood. Presumably you have found it injuring woodwork, but it is quite likely this beetle might be caught in the act of attacking seeds or dry fruits.

**Black Hamburg Grapes Shank and Shrivelling (F. B.).**—There not being any artificial heat in the house for a fortnight previous to the 21st of August, and the weather being dull and showery during that time, would not cause the shanking and shrivelling nor the Grapes to damp had there been a little ventilation so as to permit a circulation of air. The hot sunny weather following the previous low temperature would aggravate the shanking and shrivelling by inducing increased evaporation from the surfaces of the Vines; but that is not the cause of the Grapes finishing badly. The attack of red spider in the month of July amply accounts for Black Hamburg Grapes shrivelling and shanking in the same house and under the same conditions where Lady Downe's Grapes do neither. The latter has very much more substance in its leaves, its whole constitution differs from that of Black Hamburg, and it seldom suffers from red spider like the thin-textured foliage of many other Grapes.





THE value of good leaf mould for naturally heavy soil to mix with other ingredients as a compost for pot plants, and to utilise as a root-producing medium in a great variety of ways, can scarcely be over-estimated. I say good leaf mould, because much of the material used under that name is an unwholesome decaying mass of humus, abounding in injurious fungoid growths and minute insects, which render it totally unfit for plant food. To use such material when preparing the soil for plants in pots is to court failure, and even when mixed with the soil for outdoor crops it in time causes the bulk to become so sour that roots make very slow and unsatisfactory progress in it. To make matters worse the few roots which are formed speedily become a prey to the insects, which rapidly increase while the roots diminish, and before such soils can be again brought to a fertile state they must either be burnt, or receive heavy dressings of lime and soot to kill the insects and sweeten the soil. It may be thought that this is a rather sweeping assertion, but having seen the mischief wrought by using unsuitable leaf mould, I am convinced that so erroneous a practice cannot be too strongly condemned. In all cases where leaf soil is used it should be thoroughly examined to see that it is free from insects, and not in too advanced a state of decay. When in the best condition for use it is somewhat tough, and yet sufficiently decayed to allow of its being easily rubbed through a sieve, and still retain something of a "springy" nature. Roots will speedily take hold of such material as this, and form a perfect network around the small particles, from which they soon extract the fertilising properties, and ramble in search of another supply.

There can be no doubt that the best of all leaf mould is obtained under trees where the leaves decay in a natural way, each succeeding year's growth falling upon and covering the last, being thus disposed in thin layers, so that the air and rain can reach them; they are in all stages of decay in the sweetest possible condition. Anyone who can obtain this kind of leaf soil from the woods should use it in preference to that obtained from any other source, and the way in which healthy rootlets permeate this wholesome material, which remains in a sweet condition for a long time, should speedily convince them of its great superiority over leaf soil formed in a heap in which fermentation takes place, and from which, to a great extent, the sweetening influence of the oxygen of the atmosphere is shut out.

Few, however, are so favourably situated as to be able to command an unlimited amount of leaf soil of the best description, but they can do much towards securing a good substitute for it by collecting leaves into a heap and giving them the right treatment while they are in a state of decomposition. At the present time of the year, when leaves are beginning to fall in abundance, provision should be made for placing a good quantity in a heap where they can be turned several times during the course of the ensuing year, and kept regularly moist to induce continuous decay. Where no sheltered position in which they can be placed without fear of being scattered by winds already exists, a few hurdles, or, better still, a strong wooden fence can be formed into a square, and the leaves placed therein as they are collected, scattering them over the whole surface as they are placed there, keeping them as free as possible from sticks, which create fungoid growths. Occasionally

they should be trodden firmly so as to avoid rapid fermentation. They will require no further attention till the spring months, when decay is visibly taking place. Turn and thoroughly mix them, water being applied as the work proceeds. If they are in the least dry let them remain loosely together without treading, as there will be no danger of excessive heating by fermentation.

The heap can remain in this state till the end of the following September, when it may again be turned, and by this time the leaves should be in a half-decayed state, and may, if the room is required for other leaves, be removed to an open position, as the greater density of their bulk will prevent their being displaced by wind. At this stage a few insects will probably be noticed, and the addition of a little soot will destroy many of these, and also add to the richness of the soil. If it is desirable to hasten decay as much as possible to have a portion of it ready for use a little lime may be added to each layer. This will sweeten it, and have the effect of causing rapid decomposition; but this will be accomplished slightly at the expense of the richness of the leaf soil, though considering the sweet and wholesome condition of it the apparent wastefulness of the practice is not worthy of serious consideration.

Leaves which have been used for supplying bottom heat in the Pine pit till they are thoroughly decayed, are sometimes mixed with soil for plants in pots without further preparation. This practice cannot be too strongly condemned, especially in cases where the whole of the leaves are not renewed annually, but where a portion of the old ones are mixed with the new, this part is generally full of minute insects, which speedily increase and spread throughout the whole heap. Where there is no alternative but to use this material I have found the only safe course to pursue is to place it in thin layers on the top of a boiler or flue, where it gets thoroughly dried and every insect destroyed; a little water is then applied, and the whole well mixed together before using. And I may here slightly diverge from my subject to say, that when there is the slightest suspicion that any soil required for potting purposes is infested with insects of any kind, burn in the way described before using. This simple preventive would be the means of avoiding many failures which are at times recorded.

The uses of leaf soil are manifold, and there are many ways of using it with advantage, which are not thought of by cultivators generally. When in a half-decayed state it forms an excellent mulching for Vine borders and all kinds of fruit trees, especially in cases where roots are not abundant, and it is absolutely essential to attract them to the surface. I know of nothing in which the roots of Vines and fruit trees will root so readily as in leaf soil. At various times, when requiring small quantities for special purposes, I have carefully removed some from Vine borders which had a few months previously been covered with half-decayed leaves, and invariably found them closely matted with roots just under the surface, and I am confident that in many cases a top-dressing of similar material would be of more benefit to fruit trees than the crude manure often given, as roots will not penetrate it until it is in a more advanced state of decay.

For forking into flower beds and herbaceous borders, or for use upon seed or nursery beds in the kitchen garden, leaf soil is also invaluable. For mixing with other soils for pot plants it is in constant demand, and wherever any quantity of plants are grown in pots a heap should always be kept in a suitable condition for constant use. Although almost any plant in cultivation will thrive exceedingly well in a compost in which it is freely intermixed, yet great discrimination is needed to use it in proper quantities on different classes of plants, as it produces quick healthy growth, but is not lasting in its effects. It should, therefore, be sparingly used for plants which are to remain undisturbed for several years, or it



is apt to get into a sour state. Heaths and other hardwooded plants, except the strongest growing kinds, do not require it when good peat can be obtained. The enormous quantities of Palms and *Dracænas* imported into England from the Continent are generally grown almost entirely in leaf soil, and the splendid growth which they make shows that it suits them in the earlier stages of their growth; but if this treatment were followed by using similar material at each successive potting it would be found that by the time the Palms had been placed into the largest sized pots the compost was not a sufficiently lasting nature, and much of that used at the earliest pottings would be sour and exhausted, and the Palms would soon get into an unhealthy state in consequence. Trade growers are well acquainted with this fact, and when they receive their consignments from abroad those that they intend to grow are transferred into larger pots, using a compost of two parts turfy loam to one of peat or leaf soil. In this mixture they produce grand specimens. For softwooded plants which are shaken out annually and repotted a liberal admixture of leaf soil is of the greatest benefit. *Fuchsias*, *Primulas*, *Pelargoniums*, *Cinerarias*, *Calceolarias*, and a host of other plants of similar type, as well as *Abutilons*, *Acalyphas*, *Cannas*, *Selaginellas*, and *Panicums*, all thrive well in a compost in which leaf soil is used at the rate of one-third to one-half of the whole. During the earlier stages of the growth of these and other plants and for all seedlings, it may, with advantage, be used in a still greater proportion, as among the many substances which I am acquainted with there is nothing to equal sweet properly prepared leaf soil as a medium for producing abundance of healthy roots and quick vigorous growth in young plants.—H. D.

### MARKETING PEARS.

THERE is such a glut of common early Pears, notably *Williams' Bon Chrétien*, *Windsor*, *Hessle*, and *Autumn Bergamot*, that they scarcely pay for gathering and sending to the nearest markets. Naturally this is disheartening, especially to those who have had no previous experience in the matter of marketing fruit; but if the common fruit is not a profitable crop this season it does not follow that the later varieties, or those that will pay for being stored for a time, will not fetch remunerative prices. Personally I am of opinion that even the "*Williams*" might be disposed of at something like a profitable rate if only the growers had a little more enterprise. Hereabouts, instead of sending to Bath, Bristol, Taunton, Frome, Yeovil, and Trowbridge, where they fetch very little indeed, the attempt ought to have been made to find better markets in South Wales, the inhabitants of Cardiff, Merthyr Tydfil, Swansea, Aberdare, Dowlais, Newport, and other populous towns and suburbs not being well supplied with fruit generally. If the south-western counties cannot find a suitable outlet for their abundance of fruit in South Wales then no good markets will be found anywhere. When, however, we come to deal with the better samples of fruit than ordinary orchard trees will produce, then different tactics ought to be pursued. These should not be indiscriminately muddled into sieves or baskets and marketed in an equally haphazard fashion, the better plan being to sort them into at least two grades, the best being sold to the high-class fruiterers; the others, fetching much the lowest prices however well it may be handled, being sent to the larger markets, or those say from which the wage-earning classes derive their fruit supplies.

What sells readily in most large towns and Covent Garden market are superior samples of large showy varieties, these not necessarily being of superior quality. For instance, well-grown fruits of the coarse and gritty *Duchesse d'Angoulême* will, if properly consigned, bring as much as 6s. per dozen, this being three times what would be given by the same fruiterer for good average fruit of *Marie Louise*. *Doyenné du Comice* fortunately is both showy and superior in quality, and for the best samples 6d. each can usually be obtained, though to a connoisseur they are worth far more than the best *Duchess* ever grown. The showy *Beurré Clairgeau* also sells readily, and the best samples of *Beurré Diel*, *Maréchal de Cour*, *General Todleben*, *Doyenné Boussoch*, and *Pitmaston Duchess* can always be sold to advantage. Extra fine fruits of the last named being somewhat of a sensational character will, if properly placed, fetch quite fancy prices, or say from 12s. to 18s. per dozen. Even the somewhat despised *Vicar of Winkfield* if grown to its full size on wall trees sells readily at good

prices, and those among us who are able to grow *Glou Morceau*, *Chaumontel*, and *Easter Beurré* to near the same size these varieties attain in the Channel Islands may always reckon on a good sale.

Much, as may be gathered from the foregoing, depends upon the way the fruit is placed upon the market. There must be no trickery, no attempt to palm off a heavy consignment of fruit with a few of the very best displayed on the top as being all of the same quality, and more than ordinary pains should be taken in gathering, storing, and packing. It is too late to enlarge upon the folly of overcropping, and I will, therefore, merely add that this phase of "gardeners' greed" invariably brings its own punishment in the shape of a heavy weight of inferior fruit, which sells badly and takes far more out of the trees than does about one-third of the number of fruit of full size and of six times its value. In each case sound judgment must be exercised in the matter of gathering, storing, and marketing the fruit. If dragged from the trees too soon shrivelling invariably results, while if left a few days too long many may drop and be spoilt in one night, and in any case they rarely keep so well when left on the trees till the dropping stage is reached. Large fruits not being plentiful, few care to test them by cutting one or more open occasionally in order to see if the pips are nearly or quite brown, a good test of fitness, and the only other alternative is to gently lift them out of the perpendicular position. If the footstalks part from the tree readily the period for gathering has arrived, otherwise the fruit must be allowed to hang a few days longer. *Beurré d'Amanlis*, *Beurré Superfin*, *Doyenné Boussoch*, *Souvenir du Congrès*, and *Pitmaston Duchess* are among the first of the best marketing Pears to be fit to gather, these maturing much in the order they are given. Then comes *Louise Bonne of Jersey*, *Doyenné du Comice*, *Marie Louise*, *Maréchal de Cour*, *Duchesse d'Angoulême*, *Beurré Clairgeau*, *Beurré Diel*, *Vicar of Winkfield*, *Chaumontel*, and last of all *Glou Morceau*. As will be gathered from this I do not believe in any wholesale clearance of the trees, but prefer rather to treat each variety separately.

Every fruit ought to be handled carefully, as some of them are very tender skinned, and a bruise detracts greatly from their value, all being stored thinly on clean newly papered shelves in a dry but not very airy room, the finest fruit in a single layer stalk end uppermost. Not till the fruits are commencing to change colour should they be consigned to fruiterers or salesmen. If this period is anticipated lower prices will be returned, for the simple reason that but few fruiterers can afford to store much fruit till it is fit for use; while on the other hand if the Pears are kept till fully ripe they may travel badly, and in any case do not often sell well owing to the extra risks run by the buyers, who always prefer something that will keep long enough for all to be sold at best prices. All the selected fruit ought to be wrapped separately in squares of kitchen paper, and then be packed in one, or at the most two, layers in a box, plenty of paper shavings, soft wood shavings, dry soft moss or the softest chaff being interspersed among them so as to prevent rubbing or bruising, the lid shutting down tightly on a top layer of the packing material used. The small square boxes used by the Channel Island growers, these holding, say, one dozen of the finest fruit, show the latter off to the best advantage, and Pears thus packed fetch the highest prices in the market. Such boxes can be bought very cheaply now-a-days, being made to order in Bristol and elsewhere, and in the long run are much preferable to any that may be bought of grocers. This method of marketing fruit will have eventually to be adopted by all who would succeed in marketing choice fruit, and the sooner it is adopted generally the more quickly will the foreigner be shut out or rather beaten out of our markets. By the term foreigner I do not mean to include our fellow countrymen in the Channel Islands and elsewhere, but I would like to see the rest fairly beaten out of the field, and hold it is only by improving our methods of marketing fruit that this can be done.

The question next arises, What shall be done with the smaller fruits after the best specimens have been separated from it? It is this difficulty, if such it may be termed, that has prevented so many fruit growers from adopting the plan of making different grades, the impression being that it pays best to keep all together. No greater mistake could well be made. At the outset I pointed out what could be done hereabouts with the second-rate fruits, and those who live in other parts of the country may well adopt somewhat similar methods, sending the finest fruit to fruiterers and salesmen in the larger towns, and getting rid of the rest nearer home. As far as private gardeners are concerned, most of these will find that very large Pears are not desired for home consumption, those of a medium size answering well. Then, again, there are a number of comparatively small varieties, which, though they will not sell well, are yet of very superior quality. Among these I would include *Comte de Lamy*, *Passe Colmar*, *Winter Nelis*, and *Josephine de*



Malines, and with good dishes of either of these on the table few employers will be disposed to grumble at the largest fruit of other varieties being sold.—W. IGGULDEN.

### HYACINTHS.

THE most useful of all Hyacinths is the Early White Roman, for with care and a little forethought a succession of its pure white fragrant flowers may be had over a period of nearly six months. They are seldom needed before the middle of October, and there is no difficulty in having them at that date. It may be thought that after the Dutch Hyacinths commence to flower they take the place of the Early Roman, and that is no longer required. The larger spikes, bolder bells, and attractive colour of the Dutch varieties are certainly superior for many forms of decoration; but for cutting they are not useful, as they are too heavy, and only in a limited number of arrangements can they be employed with effect, while the Roman is admirably adapted for such purposes. The small spikes that appear by the side of the larger ones in the case of the Dutch varieties, which the exhibitor is careful to remove as soon as they can be discerned, are far more useful to those who have flowers of various colours to supply in a cut state than such spikes as adorn our exhibition tables.

The Early Roman Hyacinth cannot well be dispensed with for cutting until it yields flowers outside under almost natural conditions. The culture is so simple that I need not go into details. It will suffice to say that successional pottings should be made at intervals of three weeks or a month from August until the end of October. The cultivator, however, must be guided by the condition of the bulbs; sometimes potting cannot be delayed so long as at others. Directly the bulbs show signs of gumming they should not be kept out of the soil, but potted or planted at once. At the time of the last potting plant a good number of bulbs close together in a sunny place outside, and others in a northern position. Those in the former should be planted so that handlights can be placed over them at different times to secure a succession to those grown in pots. The bulbs placed on a north border should only have protection from the time they commence showing the colour of their flowers. If allowed to expand without the protection of glass they might all be spoiled by rough stormy weather. If severe weather sets in after they appear well above ground it is advisable to afford them light protection by covering them with a little dry fern or mats, because I have known frost destroy the flowers, except one or two that had not advanced so quickly. If this plan is carried out flowers of the White Roman may be had until the end of March.

Market growers usually place them thickly together in boxes, and force them in large quantities, but the Roman Hyacinth is not forced in such numbers for the markets as was the case at one time. What home grower can purchase roots and compete with those sent from France, and sold early in our markets at 1s. a dozen bunches? Growing Roman Hyacinths for the market is little better than turning over capital, and to be certain that there is not a balance on the wrong side the bulbs must be bought cheaply and all forced by Christmas or the new year.

The single blue Roman Hyacinth was strongly recommended a few years ago as an early flowering variety, but many were disappointed, and this variety was condemned. It is said to be shy and not very effective. In colour it is pale blue, which is as good as that of many other Hyacinths that are placed in a foremost position. It is not effective as a pot plant from a decorative point of view, because it is too much like *Scilla nutans* in its habit of growth, and its straggling foliage hangs in a confused manner over the sides of the pots. If it is to be arranged with other well-grown plants of Tulips, Narcissus, and Dutch Hyacinths, its foliage needs trimming with the knife or shears before it is staged. The flower stems are rather too long, they need supporting after they have been out a few days or they fall about like the foliage. It certainly has many faults, but that of shy flowering cannot be added to them, for flowers are produced freely; two, three, and often more spikes appear from each bulb, and where blue flowers are appreciated in a cut state this variety will be found well worth growing, as the spikes are of a suitable size for cutting. Like the Bluebell or Wood Hyacinth, its foliage is produced before the flowers are scarcely visible. I have had it in flower directly after Christmas; but this does not give the plant a fair chance. It will not bear forcing, but should be allowed to come forward gently. Even under these conditions there is no difficulty in having it in flower by the end of January.

French Rose is another variety that was also said to be early. It may be described as having semi-double white flowers shaded faintly with rose, possessing, though in a less degree, the faults of the blue Roman Hyacinth. The plants should not be hard forced,

and may be had in creditable condition for the conservatory when the White Roman no longer adorns that structure. It is also useful for cutting, in fact for the latter purpose I principally recommend it.

The extreme beauty and usefulness of the Dutch varieties for exhibition, home decoration, including flower beds and borders in spring, scarcely call for comment. I shall, however, just glance at two varieties that I have singled out for special remark—one is *Homerus*, single red, and the other *La Tour d'Auvergne*, double white. They are not selected because they possess any striking features, either in colour, size of spike or bell that are not possessed by others; in fact the first fades from the bright taking colour that it opens with to one of a dirty hue quicker than any other Hyacinth that I know. *Homerus* is the earliest of red varieties to flower, and where coloured Hyacinths have to be in flower as early as possible in the season it cannot be ignored until a better flower and one as early or earlier can be found. *La Tour d'Auvergne* is the earliest of all Dutch Hyacinths. Its flowers when wired are invaluable in a cut state, and it precedes *Homerus* by a few days. When early forcing is practised the flower spike invariably commences to open at the top, and the result is miserable flowers. This is the cultivator's fault entirely. The mischief is due to exciting the plant too rapidly in its early stages, and the effect is only visible at the stage to which I have referred. In most instances the bulbs are placed in too high a temperature when they are first introduced into the forcing house. Nothing is gained by such a course, but, on the contrary, the spikes are ruined. After the growth of the bulbs has become green in a cold frame, place them in a vinery or Peach house just started, and although they appear to move slowly, they are starting gently, as they should do, and when once they are fairly moving, and growth is visible, they will bear the warmest structure that can be found for them if they are wanted quickly, but the structure must not be a dry one. Instead of losing time by starting them gently time is gained, and the bulbs flower sooner than if placed direct into strong heat.—W. BARDNEY.

### HEDGES OF ANNUALS.

I HAVE been a garden wanderer for many years, and as I love the art of gardening I generally keep my eyes open for any beautiful and natural patch that may chance to come in my vision. Many a time in my day dreams has an ideal garden floated before my eyes—a garden where climbing Roses, Clematis, Virginian Creeper, *Canariense*, Columbine, *Convolvulus*, and Ivies of different shape and hue vie with each other in rank luxuriance, and where beds of the good, old-fashioned Hollyhock, *Spiræa*, *Anemone*, *Delphinium*, and other herbaceous plants spread about in their wild beauty.

In the course of my wanderings this year I visited Grimston Park, Tadcaster, the gardens of which are somewhat famed for their excellence and neatness. There it was I saw the hedge about which I wish to draw the attention of your readers—amateur more especially than professional. A large flat of vegetable land was the view from the cottage windows early in the spring, and this not quite agreeing with the tastes of the inmates of the house a packet of Sweet Peas was sown across the end and down one of the sides, the total length being about 30 yards. Soon after a few seeds of *Tropæolum peregrinum* and tall mixed were scattered along the row; and later still here and there were planted a tuber of some choice single *Dahlia*, together with a few Sunflowers; Pea rods were added, and the foundation was completed of what this autumn has proved to be one of the loveliest pictures it is possible to behold. There is the white, the blue, the pink, the brown, and the purple of the Sweet Pea; the golden yellow of the "*Canariense*;" the deep red, the rich brown, the bright cerise, and the marked red and white of the Dahlias contrasting strangely and richly together, and helping each other to show off its own peculiar charms, with the different hued green foliage of the three as a background. Dead indeed is the soul of the person who can pass by this mass of brilliant beauty without pausing to drink in some of its loveliness. Why, even the Sunflowers gracefully bend their heads and look down upon this sight with seeming wonder and admiration.

The reader perhaps says, "That the hedge is beautiful I must admit, but is it useful?" To this I answer, "Yes, it is." What a quantity of Sweet Pea blossom you can cut for your vases! and what Dahlias for your glass! And that "*Canariense*!" If it were only a guinea an ounce instead of a penny how it would be prized! Then again, what amateur is there who has not some spot in his garden—either adjacent to his neglectful neighbours or near some rubbish or manure heap—where an offensive view could not be changed into a beautiful and natural one by the expenditure of a shilling or two on the seed of the Sweet Peas and the *Tropæolum*.



And you professionals, you cannot find place for this hedge on your terraces, where your carpet beds must be nipped and shaved to keep them like a carpet, and where your Henri Jacoby, Flower of Spring Pelargoniums, Calceolarias, Begonias, and Lobelias must be kept symmetrical and within due limit; but there will be a place somewhere in your area where it may be tried profitably and pleasurably, therefore my advice to you, if I may presume to give it, is—"Try it."—IGNORAMUS.

## NOTES ON PLANTS.

### GYPSOPHILA PANICULATA.

WHERE cut flowers are required in abundance from plants which are strictly confined to the hardy garden those who do not possess the above miss a capital one for the purpose. The flowers are borne in profusion, last long in a fresh state when cut, and can be elegantly associated with other flowers, even Roses being improved by their association. It is surprising what a large bush will grow from only two or three shoots from the root; our plant is fully 4 feet in diameter, and the somewhat quaint small flowers seem to catch the eye at once. Owing to the scarcity of growth from the base it is not so easily increased as some perennials. The slugs, too, have a great liking for the tender shoots when they start in the spring. Abundance of soot worked into the soil round the base of the plant before growth commences is the best preventive of a loss of shoots. No doubt in a light sandy soil it is not troubled to nearly the same extent in this respect as it is in a heavy one, where slugs are more numerous in the spring.

### CHELONE BARBATA.

This is also called *Pentstemon barbatus*, and is a gem for the herbaceous border, summer flower beds, or in a nook on the rockery. The colour of the flowers varies from pinkish red to carmine, a shade which is not too plentiful even amongst hardy plants. What makes this all the more valuable is its natural habit of growth, which is upright, requiring but little space; one small stake in the centre of each root gives enough support if the shoots are loosely tied to it singly, which is a much superior method to encircling the plant with one ligature in a broom-like manner. Two years is long enough to allow the plants to grow without removal, as the centre of the root becomes weak, consequently the flower spikes are not so strong as they should be. The best way to maintain a stock of plants which will provide flowers abundantly is to break up the oldest roots every year the first week in October; every bit with a root attached will grow if dibbled into sandy soil in a cold frame, and left there till the following May. Then plant them out where they are to flower. That year they will throw up two or three stout spikes, but the following summer they will be at their best, producing stout spikes from 2 to 3 feet long.

### CAMPANULAS.

The three varieties of *Campanula carpathica*—*turbinata*, *pallida*, and *alba*—are all worthy a prominent place either on the rockery or at the front of the herbaceous border. The growth is easily kept within bounds. Flowers are freely produced which require no support, an advantage where labour is scarce. To give the best effect broad masses of each should be grown together, as in that way they are the most effective. Plants with two or three stems do not convey any idea of their beauty as compared with masses of flowers half a yard across. By dividing the roots in the spring just when growth is on the move no difficulty need be experienced in increasing the stock.

### ECHINOPS RITRO.

This is not the least interesting plant in the herbaceous border at the present time. The deep blue of the globe Thistle-like blooms are very conspicuous. It is a perennial, easily increased by dividing the roots either in autumn or spring. One strong clump will throw up half a dozen stout flower stems, which branch off into many more smaller ones, and altogether make a brave show at the back of the border, as it grows from 4 to 5 feet high.

### CONVOLVULUS SEPIUM.

This pure white large-flowered Bindweed is a useful plant to grow for covering the stems or branches of deciduous trees where a suitable position can be found for it. We have it planted at the base of a large-flowered variety of Laburnum, up the stem of which it climbs and entwines itself among the branches to a height of 10 feet. This Laburnum is growing by the side of a waterfall among rocks, over which the *Convolvulus* has rambed until it touches the water. Many of its stems have entwined

themselves around the smaller shrubs near, and very pretty it looks just now, the pure white bell-shaped flowers, 3 and 4 inches across, resting on a deep green base. For such a position nothing could have a better effect, and its growth, which is but short-lived, does not interfere with other plants about it.—S.

## CARNATIONS IN POTS.

CARNATIONS have long been favourite flowers, and ranked in popular estimation next to the Rose. The admiration for them, however, is annually increasing, and they are in demand over a longer period of the year in gardens of any pretensions. The cultivation of the Rose under glass has advanced considerably, and like provision is being made for the Carnation. We have but little doubt that ere long the Carnation house will form one of the features of most gardens. Those who have only seen the Carnation as it can be grown outside under good cultivation have but a poor conception of its beauty when grown and flowered under glass. We shall not attempt a comparison of the two. Those grown outside are certainly amongst the choicest of our outdoor flowers and indispensable for cutting, but they are puny by the side of well grown examples under glass. Only recently, when speaking to a friend about the extreme beauty of these flowers in the latter position, it was stated "They do not yield sufficient material for cutting." All of that opinion should either see them well grown or grow them, and their verdict would soon be changed. Well developed blooms of *Souvenir de la Malmaison* remind one of large French *Pæonies*, especially the pink form, *Lady Middleton*. Then, again, those who know *Mary Morris* or *The Governor* outside would fail to recognise the same flowers indoors; the same might be said of many others. If we take the old crimson *Clove*, with its dingy and dirty petals outside, always one of its faults, it is a fine flower under glass, and when well grown is free from these faults. I am not writing from a florist's point of view, or the old *Clove*, which is such a general favourite, might be relegated to the shrubbery or herbaceous border to look after itself, even if tolerated in the garden.

It is to be regretted that many of the finest varieties yield flowers that are practically scentless. This is of but little moment with the florist proper, but very frequently must be duly considered by those who grow for private gardening establishments. Some, however, of these scentless varieties are so charming in colour and such general favourites, as, for example, *Mrs. Reynolds Hole*, that they cannot be excluded from any collection of plants.

To grow Carnations well in pots under glass they should be layered as early as possible after flowering. This is unquestionably the most certain method. Varieties of *Souvenir de la Malmaison* should be well rooted now and ready for potting, either singly or in pairs, in 4 or 5-inch pots, according to the quantity of roots and the size of the plants. The pots should be clean and carefully drained, and the soil pressed moderately firm into them. After the plants are potted they may be stood outside on beds of ashes, and afterwards at the approach of frost removed to cold frames. If frame room is plentiful they will root better in frames; when outside they are liable to become too wet from heavy rains. Carnations need careful watering, but should never be allowed to become dry at their roots during any stage of growth. Other varieties should be potted as they become ready, and with the majority it is best to pot them in pairs; in fact, weak growers may be placed three in each pot, and may have a slightly smaller size.

For some time the plants give but little trouble, as they only need careful watering until they are well rooted. Some attention, however, is needed in not allowing them to become root-bound before they are transferred into 7 to 9-inch pots. The last is large enough for a pair of the strongest growers, while the smaller size will suit those of weaker growth. The plants should be well rooted before they are potted, for over-potting is as great an evil as allowing them to remain too long in their first size. The drainage from the base must be carefully removed without injuring the roots. For the final shift the pots can be more liberally drained, and the surface of the ball must not be covered more than a quarter of an inch deep with the fresh compost. The plants can be returned to frames that are light and airy. From the time they are first potted liberal ventilation is required to prevent weak growth. A shady position or a close confined atmosphere will soon ruin the Carnation. The plants to commence with should be dwarf and sturdy, and kept in that condition afterwards until they are layered for the following year. Cold frames are necessary when the house in which they are to be flowered is occupied with earlier varieties of the *Miss Jolliffe* type, which is one of the best, but these need rooting in



spring and growing on throughout the summer months outside. Span-roofed frames are best for these plants where air can play freely amongst them, although good examples can be produced in ordinary lean-to frames.

Those starting to grow Carnations may place their plants direct into the house in which they are to flower after their final potting. Let the pots stand on ashes or other suitable material, for they prefer a cool, moist base. Open trellis staging is too dry for them and necessitates the application of water more frequently than is good for the roots. When the plants commence to throw up their flower spikes they should be supplied with a neat stake to which the flower stems can be tied as they advance in growth. When particularly fine flowers are needed in preference to quantity disbudding will be needed. Attention is also required in tying the flower buds to prevent their bursting. After the flowers commence to open light shade should be applied to protect them from the strong rays of the sun. Until they reach this stage no shade is needed, or the flower stems and growth from the base will draw up weakly.

Red spider and aphides are the two worst insect pests that trouble the Carnation. If the plants are grown in a cool place, stood on a moisture-holding base, and carefully watered, the former will give very little trouble. Should it appear stir a 3-inch potful of sulphur into 3 gallons of rain water, and syringe the plants thoroughly. It should be left on three or four fine days, after which the foliage can be cleaned by syringing with clear water. Aphides are best destroyed by fumigating the house with tobacco or one of the patent fumigators provided for the purpose. It is important that aphides be stamped out directly they are observed, as if allowed to remain until they almost smother the plants injury and ruin result.

The soil for Carnations may consist of good fibry loam, three parts, of a rather strong nature, the remaining part being composed of sand and leaf mould. To this may be added one-seventh of decayed manure. Cow manure that has been stored some months and passed through a sieve is best. The loam must be hand-picked if wireworms infest it, for they are deadly enemies of the Carnation. Any neglect in this matter will end in a considerable loss of plants.

Carnations resent strong stimulants; in fact, they are positively injurious. If potted as directed little feeding of any kind will be needed. A small portion of suitable artificial manure applied to the surface of the soil after the flowers have commenced to form will do no harm. One or two applications will be ample, and only a little should be given at one time. Two or three applications of soot water in a clear state is beneficial rather than the reverse.

I shall not attempt to give a list of varieties, for a good selection of the very best was given by "A City Man" in the Journal only a short time ago. Until a stock of the best named kinds can be obtained and raised in sufficient numbers, border varieties, or even good seedlings, may be potted and flowered under glass.

—B. O.



CATTLEYA LABIATA VERA.

THE most prominent place in current horticultural topics is still occupied by this remarkable *Cattleya*; indeed, the interest seems to increase, and the announcement that 2000 plants from Messrs. Sander & Co.'s large consignments are to be sold in Messrs. Protheroe & Morris's Rooms, Cheapside, on Friday next, October 2nd, has again concentrated attention on the long-lost Orchid. An outline of its history was given last week, but I have received so many letters on the subject that further and fuller reference has been rendered necessary.

With regard to the general characteristics of *Cattleya labiata vera*, it is difficult to give a technical description which will clearly distinguish it from the numerous other forms of the labiata group, yet it is easily recognised when once known, just as readily as Mendel, Mossiae, Trianae, or gigas can be separated from each other. Some of the earlier illustrations scarcely do justice to the plant, notably that in the "Botanical Register." In Paxton's "Magazine of Botany" for 1838, however, a coloured plate is given portraying the floral characters admirably, and indicating at a glance what a superb Orchid it is, and it is strange that though the plants

in English collections have frequently flowered, a really good representation has not appeared since. The flowers are bold and handsome, well poised, with broad substantial petals, and a finely developed beautifully proportioned lip. There is also a great range of colours from pure white to deep crimson, with many delicate intermediate shades; and though the light forms, such as pallida and candida, have been rare in cultivation, it is said that pure white varieties are included amongst those recently found; in fact, the collector stated there were "plenty of whites" amongst the others.

Then, too, the time of flowering—namely, October and November, is much in the favour of *Cattleya labiata*, for at that period there is a great scarcity of Orchid and other flowers. That the plant should have commanded such high prices in the past, when beautiful varieties of the other labiata types could be purchased for modest sums, is a sufficient indication of its sterling worth, for in such a rich and varied genus rarity alone would not increase the value so greatly. Now that this *Cattleya* is placed within the reach of all Orchid lovers, it is not surprising the sales have been almost sensational, and Friday will probably bring as large a gathering as a fortnight ago, and that has scarcely ever been equalled in the annals of the horticultural auction rooms.

One correspondent asks, "How is it that such a fine Orchid should have been left undisturbed for something like seventy years, as the few plants received hitherto could not have been brought direct from its native habitat." This is a difficult question to answer, and one upon which the successful collector could throw more light than any other person. The plant may be restricted to a comparatively small area and the position difficult of access. Then, too, it may be out of the ordinary routes of botanical and horticultural travellers. At any rate it is quite clear there must be some great difficulties in the way, for strenuous efforts have been made for many years to find the plant. Experienced collectors have been repeatedly dispatched with that object mainly in view, and nothing but failure had been hitherto the result. It is not surprising, therefore, an opinion had become confirmed respecting the extinction of the *Cattleya*. Happily this does not seem to be the case, but I have the most earnest assurance that no collector from Europe has been recently known to visit the particular spot where the plants sent to St. Albans were found.

This brings us to another point raised by an Orchid amateur, who writes to this effect, "It is said that *Cattleya Warocqueana* and *C. labiata vera* are identical. What is your opinion in the matter?" In replying to this it will be necessary to review a few of the facts in connection with the appearance of *Cattleya Warocqueana* in England. The first time I saw the plant was at the meeting of the Royal Horticultural Society on May 13th, 1890, when specimens in flower were submitted to the Orchid Committee. As newly imported plants which had come into flower on the way, it was found they were not in condition to obtain an award, and none was made; but I remember distinctly that several expressed the opinion that it was like *C. labiata Warneri*. The next appearance was at the same place on October 14th, when plants were shown in much better form; the flowers bright and varied in colour, and two varieties were selected for first-class certificates. It was regarded as a distinct and beautiful form of *C. labiata*, but no one ventured to suggest that it was *Cattleya labiata vera*. The plant was welcomed as an acquisition of considerable value, and it was freely praised as such. It was in this light I regarded it, and judging only by what has come before my notice I cannot alter the opinion then formed. Further evidence may be forthcoming that cannot be ignored, but up to the present time I have not seen a *Cattleya Warocqueana* which I could consider identical with the old *C. labiata vera*, with which I have long been familiar in English collections.

I am aware that Mr. Rolfe has pleaded guilty to a mistake in describing and naming it as a distinct variety, but I cannot imagine how so skilful a botanist and careful an observer could be led astray; and though his readiness to admit an error is highly commendable, yet I am reluctant to accept his recantation, and, perhaps, after all he may find his first opinion was the correct one.

A third inquirer wishes to know what evidence we have that "the plants now being offered at the Sale Rooms as *Cattleya labiata vera* are the true thing?" With regard to that we have first the credit of a great firm at stake, which has pledged itself to the matter by guaranteeing all the plants sold, and this will suffice for



most people. Secondly, dried flowers and drawings have been exhibited which confirm as far as such evidence can the statements published concerning it. This will answer the question as far as it is in my power at present, but I am promised interesting information from several different sources both at home and on the Continent, and the subject will no doubt have to be referred to again.

It may be added that while several quotations have been given from Gardner's travels bearing upon the fact that he found *Cattleya labiata vera* in two places in Brazil, as to one of these Messrs. Veitch state "it is now known to have long since disappeared from that locality," and with regard to the other the same authorities have the following note in their excellent monograph of the genus *Cattleya*. "Gardner also states that he detected *C. labiata* at Sapucaya on the River Parahybo which separates the provinces of Minas Geraes and Rio Janeiro, but the form he met with here is, with a very high degree of probability, believed to be the variety *Warneri*." In view of the opinion expressed at the meeting of the Orchid Committee when *C. Warocqueana* was first shown, this is a peculiar coincidence, and has apparently been overlooked by recent writers. It may be remembered that *C. labiata Warneri* is one of the nearest relatives to *C. labiata vera* that is known. It has also been collected in the same district, but flowers much earlier.

Just as I had concluded these notes a poetical effusion came to hand entitled "Who found the old *labiata*?" It bears a distinguished orchidic name, but as "all rights are reserved," and I have no permission to utilise this remarkable production, it must be passed with the observation that the readers of the *Journal* who are partial to verses have lost a composition of absorbing interest, perfectly unique in metre and rhyme. The first four lines, however, convey a geographical reference, and I cannot resist quoting them:—"The woods of Rio Pinto are now a gaudy show, The time is early winter, where old *labiata*s blow, And Sander of St. Albans, the mighty Orchid King, Is filling all his boxes for shipping in the spring." Presumably this is retrospective, and "the boxes" referred to have apparently arrived, but whether "the woods of Rio Pinto" is really the home of the plants or merely a poetical fiction I must leave to others to determine.—LEWIS CASTLE.

### VIOLETS FOR FRAMES.

THE wet and sunless weather we have had has not been favourable to the growth of large plants. It is true they have kept free from red spider, which during some seasons give a good deal of trouble to eradicate, but for a long time plants raised from early runners produced by last season's plants in frames did not make much progress after they were rooted and planted outside. During the past month or six weeks they have grown luxuriantly, in fact too much so to be in the best condition for lifting and flowering profusely afterwards. We have found that plants of sturdy growth flower more freely than overgrown ones. The weather for some time past has favoured the development of large but soft foliage.

For some years past we have been in the habit of changing the ground annually for these plants, but always selected for them a north but moderately light border in which old hotbed refuse has been freely incorporated. At the same time we have been careful not to use too much of this material, so that the plants will be sturdy instead of large and soft. Too much manure and leaf mould will result, especially in seasons like the present, in producing plants that are scarcely capable of supporting their own foliage.

It will prove beneficial to the plants if they are checked by lifting without further delay. Early lifting will not only arrest the soft growth they are now making and induce them to form flower buds, but the plants have every chance of being thoroughly established before winter. The last is important if early flowers are needed. The Neapolitan varieties are the earliest to bloom, and two courses are open to those who grow Violets. Where they are needed as frequently as they can be produced a slight hotbed should be made at once in an open sunny position, and a frame placed over it. On the surface not less than 6 inches of soil should be placed. Select plants that are already showing plenty of flowers. Marie Louise is, perhaps, one of the best for autumn blooming. Lift them with moderately good balls of roots, and plant them fairly close together in the frame or frames provided for them, but avoid crowding, and the heat of the bed should be on the decline. A good soaking of tepid water should be given to start them, and by the aid of a gentle bottom heat they are soon established, and will not be long before they commence pushing up their

flowers. The plants may be kept close and lightly shaded from the sun for a few days, when plenty of air may be given afterwards to prevent their drawing up weakly.

Where frame room cannot be devoted to as many as may be required good success can be attained by placing plants in boxes 5 to 6 inches deep, leaving them outside until established, and afterwards placing them in light positions in vineries and Peach houses. It must be remembered, however, that Violets bear gentle forcing only, and that should always be conducted with free ventilation. In a close confined atmosphere they flower only poorly, and soon become a crowded mass of soft weak foliage.

When needed in spring only, and two frames can be devoted to them, they should be placed in different positions, one where it will catch every ray of sunshine, and the other in a more northerly aspect; these then form a capital succession. The frames for these must be prepared and the plants placed into them at once. For these we place a few inches of old hotbed refuse at the base and then fill up to the depth of 9 inches or 1 foot with old potting soil, being careful that too much manure and leaf mould has not been mixed with it. If the heap at disposal is considered too light we invariably mix with it soil in which Melons or Tomatoes have grown. After a good watering and the plants have been established the lights are thrown off daily when favourable, and ventilation is also provided at night until the approach of frost. Frost appears to do Violets very little harm during the winter. The soil about ours was hard for weeks last winter, and we never remember plants having flowered better.

The old Czar is still a valuable variety for frames and outside flowering in spring, and is much more fragrant than the double forms. After the frames have been filled the remaining plants may be lifted and planted in sunny positions for early flowering outside, while a good batch should be allowed to remain on a north border. It is always wise to plant the latter so that they can be left undisturbed. Last year two or three hundred plants in this position flowered well for us when all others were over.

It is a mistake to leave Violets on the same ground year after year; they soon exhaust it, and then make puny growth and small flowers that have scarcely any stem. They pay for replanting annually in good soil, where they will make fairly vigorous growth and yield afterwards large blooms with several inches of stem.—B.

### JOHN LOVE AND HIS GARDEN.

WHILE driving in September from Bridge of Weir to Kilbarchan (Renfrewshire) we had begun to descend the hill above the latter town, when turning our eyes to the left we saw a wonderful crop of Apples, and found that the place was called Mount Pleasant. The present owner most obligingly escorted us around this fruitful orchard, and we soon found that what was to be seen from the highway was but a sample of the whole stock. In making inquiry we found that about sixty years since the substantial house had been built by one John Tarbet, an old soldier who had in his time been a bombardier at the taking of Martinique. He had an eye for a fine site anyhow, and we can fancy him, while the days were declining, looking over the beautiful country around him and thinking how he could command with his artillery any radical rising which his keen political townsmen might be tempted to undertake. He planted fruit trees instead of batteries of cannon, and after his decease the place came to a relative, Mr. Climie, who continued the garden in cultivation, and his daughter married Mr. Love, the subject of our sketch.

About the year 1840 the young couple came to reside there. With a large garden to keep in order the evening hours were spent at home. In spring time useless trees were regrafted with good bearing sorts, if possible several different kinds being put on each tree. The old Keswick Codlin, the more modern Stirling Castle, with the best of the purely local varieties as the Lochwinnoch Pippin and the Golden Leighton (a variety whose name was suggested by Dr. Hogg) were carefully inserted, and now this year are just loaded with fruit. A curious feature in grafting we observed, and which Mr. Love rejoices over yet, is his successful experiment of placing a Pear on a Hawthorn stock. The thorn is one of many stems, gnarled and twisted most curiously, while the Pear scion is inserted about 6 feet from the ground. To graft Plums on Thorn trees is not uncommon, but in another garden in Kilbarchan there is a Rowan Tree (Mountain Ash) with a Pear graft on it yielding even better results than this experiment at Mount Pleasant. Here we see the old Caledonian Plum in fruit on its own roots. Some years it is so overloaded as to resemble the trees we see in the Vale of Evesham, but this is not a productive year apparently with it. In this old garden of an acre, or thereby, the trees are thickly placed together, many now interwarped in their branches, while beneath them are Gooseberries and Currants galore.

The soil is a rich, red, vegetable mould, sloping to the south, but fully exposed to all the winds that blow. The Rose succeeds to perfection, and old-fashioned border flowers were beautiful, from the Snowdrops of January and February, till the blue autumn Crocus of September were buried beneath a whirling cover of bright October's leaves. All through the summer the busy bees of "friend John" were gathering



honey from every flower and blossom, fertilising the fruit trees, and largely adding to their production, as we all know who have fruit gardens and bees. The hives used were the time-honoured "straw skeps" of John's father and grandfather, and many a lovely "top" of pure honey our worthy friend has taken off here.

"The Renfrewshire Bee-keeper" befriended Mr. Love, and many a hard question on their favourite subject has been discussed between them. Alas! for so many of us that he, who so well exemplified in his own life "the grand old name of gentleman" is now gone for ever and ever, while of all who now mourn his loss John Love's sorrow for his kind friend is not the least. Not a doubt of it, for to a man of over eighty-five years new friends do not succeed quickly, and are never like the old ones. In a sunny space the plot is still defined where Mr. Love grew and raised his celebrated race of laeal Pinks. Year after year in

As we go homewards up through the narrow streets the people are in crowds, while the flower show is attracting all the florists of the district. Thus the bees gather honey, but not for themselves, so John Love's work was not all for himself. He sowed, and to-day we wear his seedlings in our buttonhole. Younger men take up the taste for flowers, but let them look with respect and gratitude on their floricultural ancestors into whose labours they have entered.—A. SWEET.

[We have also received the subjoined notes respecting Mr. Love's career.]

Every man, apart from the profession or employment by which he gains a livelihood, ought to have what is usually called a hobby. It matters little what that hobby is, provided it is innocent, and interests



FIG. 55.—MR. JOHN LOVE.

this spot they were grown to such perfection as to carry off the honours at all the shows round, from Glasgow to Kilbarchan. At every digging new soil was turned up, and thus the situation continued to suit his favourite flower. What grand specimens of the dark "Pirate" and "John Love," were cut here.

Every year seedlings were watched for, and the advent of a pod of promise was an event for local florists to come and see. Altogether the garden is one, for soil, situation, and association, much to be desired still. Now, however, the old veteran still keeps to the Pinks, fruits, and the bees, in a less vigorous fashion than of old in a new garden farther "doon the toon." Hale and wiry, with eye bright and keen, active step, and toil-worn hand, we trust that he may long enjoy his garden joys. And though "down in the valley" the long shadows of life's sunset are falling around him, and the last bees are settling home with their store, he has but to look upward and see that Mount Pleasant is glowing in the light, to have the glory of far distant summers borne in upon him.

his mind and draws his attention away from the anxiety and worry which belong to the daily business of life. Idleness, whether of body or mind, besides being morally dangerous, is not rest. It is better to have a hobby which, by giving an agreeable change of employment, will refresh and improve both body and mind without adding anything perceptibly to their exhaustion. As to the kind of hobby to be chosen everyone must consult his own taste and circumstances. It may be music, or some department of science, or literature, or floriculture, or bee-keeping. This depends very much on the taste of the individual, the nature of his daily employment, and the circumstances in which he is placed.

Floriculture and bee-keeping, two things very much akin, formed the special hobby of the person of whom notice is here to be taken. John Love, the eldest son of a father bearing the same name, was born at Kilbarchan, Renfrewshire, on April 10th, 1806. So healthy has he been that during more than fourscore years he has only on one occasion



required medical advice. Much of this, doubtless, is to be attributed to the simplicity of his life, and to his regular and temperate habits. There he is: of medium height and agile frame; a fine head, once covered with fair hair, but now bald with the exception of a few thin white locks; mild and meditative in expression; the bloom still on his cheek, although eighty-five years of age by next birthday; for many years a happy "Benedict," but now a widower and the father of a numerous family; a good Christian man, and for a considerable time an esteemed elder in a Presbyterian church.

Like his father, and like the inhabitants of Kilbarchan generally, John Love became in youth a handloom weaver, and diligently plied the shuttle till beyond the age of threescore and ten. But while busy at his trade during the time he resided under his father's roof, he had parts of meal hours, and frequently half or whole days, occasioned by the change of one web for another, when he could gratify his taste for flowers by cultivating them, and acquire also a knowledge of the habits and requirements of bees by watching and attending to those kept by his father—who was an enthusiastic bee-keeper, as was also his grandfather before him.

In his love for flowers John Love was by no means singular amongst his fellow tradesmen, the handloom weavers of Kilbarchan having, in most cases, a garden attached to their dwelling house. There is found amongst them a common love for flowers, and no little skill and competition in their cultivation. This refined taste seems to be natural, and is possibly to be traced to the many exquisite patterns and fabrics on which they spend their daily labours, whereby they insensibly acquire a knowledge of the harmony of colours and a taste for the beautiful. Certain it is many of them are keen and successful cultivators of plants, and even very good judges of the merits of flowers which they themselves have never grown and perhaps have seldom seen.

John Love is a man of this stamp. Having by-and-by persuaded one of the other sex to cast in her lot with him as his wife, and got a house of his own, he could, now that he was his own master, follow out more freely the innocent and interesting hobby towards which his heart was drawn. He soon became acquainted with many plants, and not a few of them has he to some extent grown, such as Tulips, Pansies, Roses, Carnations, Auriculas, &c.; but his favourite flower, his *pièce de résistance*, has ever been the Pink. His bed of Pinks, when in its glory, has been generally a noteworthy sight. Looking at it over his garden wall at Mount Pleasant the bed at first glance may seem somewhat strange, and almost comical—short stakes at almost every plant, holding broken bowls and plates, and glass, and other ungainly contrivances; shading and sheltering some plants from a scorching sun or possible rain, holding back others from a too early maturity, and stimulating some to a more forward growth. But turn in and inquire for the master, and ask him to show you his Pinks; and he will cordially welcome you, and gladly, probably with head uncovered, lead you out, and with affectionate pride uncover, for your delighted inspection, his choice darlings. Probably he will tell you, "These there are this year's seedlings. This one here I think will do; it is distinct from all others in the bed, and has qualities equal at least to any one of them. Here are also two or three which are very good, but before deciding what to do with them I must grow them another year. As for these other seedlings, they are below the mark and without promise, and must be cast out. These tallied ones are the named Pinks. This one—'Black-eyed Susan'—is not a very large flower, but it is distinct, well laced, and pretty, and tells well in a stand, &c." Before leaving him it is not unlikely he will say to you, "If you grow Pinks I'll give you, if I can spare it, a little grass of any one of them for pipings;" for John Love is a generous man, and likes to encourage others in the cultivation of his favourite flower.

John Love's Pink stands at a competitive exhibition are worthy of remark. Each flower is so neatly fixed in the centre of a circular piece of white paper a little larger than itself, and the petals so deftly spread as to show to the best advantage the build, and markings, and lacings of the flower; and they are all so arranged on the stand, according to size and colour, as to present collectively to the eye a lovely and effective picture. Besides, after the judges have done their work you will commonly find attached to the stand a ticket, bearing in conspicuous print "first prize," and underneath this, in legible penmanship, "John Love, Kilbarchan." This has been repeated so frequently as to earn for him the soubriquet of "Scottish Pink Champion." John Love's favour for the Pink has been a life-long one. It was cherished by him till his age extended beyond the threescore years and ten. It continued to be cherished by him even practically during his subsequent residence in Paisley for six years, and in Rothesay for five years more; and when, at the end of these eleven years, he returned to his native town happily there was attached to the premises in which he took up his abode an excellent garden, where he has given, and is still giving, abundant evidence that his love for his favourite flower has neither been extinguished or lessened by age nor superseded by a newer favourite, but is as enthusiastic as ever. His life now extends beyond the half of its ninth decade, but he still appears so strong, so active, so healthy, so cheerful, so much in the possession of every faculty with the exception of hearing (whose gates are not now wide open) that he bids fair to see, if not the completion, at least the beginning of his tenth decade.

It may be added that during all his long and active life John Love has been conversant, theoretically and practically, with bee-keeping; but as the present writer is not very well acquainted with the plans and processes he followed in this kindred hobby he leaves it to some other, who is abundantly competent to write on the subject with intelligence and authority.



EVENTS OF THE WEEK.—To-day (Thursday, October 1st) the British Fruit Growers' Association will hold a meeting in the Horticultural Club Room, Hotel Windsor, Victoria Street, at 5 P.M., when Mr. Goaring, Weald Hall Gardens, Brentwood, will read a paper on "Apples for Gardens." On Friday, October 2nd, a great sale of the old *Cattleya labiata* takes place at Protheroe & Morris's Rooms, Cheapside. The Royal Horticultural Society's Fruit, Floral, and Orchid Committees will meet at Chiswick on Tuesday, October 6th, and upon that and the two following days the Exhibition and Conferences relating to Sun-flowers, Asters, and Coniferae will be held, the full programmes of which were published last week. There appears to be every prospect of the Conifer meeting being very successful, for many important exhibits are promised.

— THE WEATHER IN THE METROPOLITAN DISTRICT during the past few days has been extremely fine, the atmosphere clear, and the temperature high. On several mornings the thermometer in the shade has registered 60° at 8 A.M.

— THE *Kew Bulletin* for September gives notes on the "Orange Scale in Cyprus," the "Rediscovery of the Gutta Percha Tree in Singapore," a chapter on the fodder plant *Tagasaste* (*Cytisus proliferus*), the Kangra Buckwheat, and some miscellaneous news from which we extract the undermentioned.

— INDIAN AND COLONIAL APPOINTMENTS.—The Secretary of State for the Colonies has appointed, upon the nomination of Kew, Mr. C. A. Barber, B.A., late scholar of Christ's College, Cambridge, and University Demonstrator in Botany, to be Superintendent of the Botanical and Agricultural Department in the Leeward Islands. The Secretary of State for India in Council has appointed, on the nomination of Kew, Mr. A. B. Westland, late Assistant to the Superintendent of the Botanical and Afforestation Department, Hong Kong, to be Superintendent of the Taj Gardens at Agra, N.W. Provinces, India. The Secretary of State for the Colonies has appointed, on the nomination of Kew, Mr. W. J. Tutchet, Sub-foreman in the Royal Gardens, to succeed Mr. Westland as Assistant to the Superintendent of the Botanical and Afforestation Department, Hong Kong.

— ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.—An Exhibition of hardy and other fruits will be held in the Town Hall, Manchester, on the 20th, 21st, 22nd, and 23rd October, 1891, and a Conference will take place, October 21st and 22nd, in the Town Hall at twelve o'clock each day. On the first day of the Conference the Right Hon. the Earl of Derby will preside, and on the second day Alderman Sir James Whitehead, Bart., Master of the Fruiterers' Company, will take the chair. The following subjects will be introduced by the gentlemen whose names are appended:—Mr. Baillie of Chester: "The Fruit Growing Movement: Present Day Features and Prospects." Mr. Cheal of Crawley, Sussex: "The Condition, Preparation, and After-Treatment of the Soil for Fruit Culture." Mr. S. T. Wright of Hereford: "Fruit Growing for Profit." Mr. Crump of Madresfield: "The Raising, Budding, Grafting, and Pruning of Apple Trees for Orchard and Estate Planting." Mr. T. F. Rivers of Sawbridgeworth: "Orchard House Culture." Mr. Edward Luckhurst of Romford: "The Importance of Early Planting and Shelter in Fruit Culture."

— PRIZES are also provided in FRUIT CLASSES as follows:—Open classes: For the best exhibition of Apples (kitchen and dessert), six fruits of each variety, dissimilar, eighty dishes (fruit grown under glass excluded). First, the Society's large gold medal; second, medium gold medal; third, silver medal; the same prizes being also offered for the best exhibition of Pears, six fruits of each variety, fifty dishes (fruit grown under glass excluded); for the best collection of Apples and Pears, six fruits of each variety, eighty dishes (for fruits grown under glass); and in the amateurs' classes for a collection of Apples (kitchen and dessert), thirty-six dishes, dissimilar, six fruits of each variety (fruit grown under glass excluded); for thirty-six dishes of Apples and Pears, six fruits of each variety, dissimilar (for fruits grown under glass); and for a collection of Grapes, to consist of ten bunches, in not less than



three varieties. Money prizes of £3 to 10s. are also offered for Apples, Pears, Grapes, and Tomatoes.

— MR. THISELTON-DYER.—We learn that the Leopoldinisch-Karolinisch German Academy of Natural History has conferred the honorary degree of Doctor of Philosophy upon Mr. Thiselton-Dyer, Director of the Royal Gardens, Kew, in recognition of the services rendered by him to botany.

— GARDENING APPOINTMENT.—Mr. L. Williams has been appointed gardener to R. O. Leicester, Esq., Toft Hall, Knutsford, Cheshire.

— THE PRESTON AND FULWOOD FLORAL AND HORTICULTURAL SOCIETY.—The fortieth monthly meeting of the members and subscribers of the above Society will be held in the large room of the Legs of Man Hotel, Fishergate, Preston, on Saturday evening next, October 3rd, 1891, when Mr. J. Hathaway, gardener to the Earl of Lathom, will read a paper on "The Chrysanthemum." Chair to be taken at 7.30.

— BOUGAINVILLEA GLABRA is generally classed as a stove plant, but it will also do well in the conservatory, and the flowers last much longer when cut out of a house with a low temperature. A good specimen is very effective, but is rather unsightly when it has shed its leaves, though when grown in pots the plants can be removed to other quarters. We have a splendid specimen growing on the wall in the potting shed, which is at present in a mass of bloom. The shed is a glass-roofed lean-to with a northern aspect, and can be kept during the winter above freezing point.—S. S.

— CHISWICK GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The annual general meeting for the election of officers and Committee for the ensuing year, and to receive report and statement of accounts for session 1890-91, will be held in the Council Chamber of the Royal Horticultural Society's Gardens on Friday evening next, October 2nd, at eight o'clock punctually. The Committee have decided to hold another concert in October in aid of that deserving charity, The Gardeners' Orphan Fund, further particulars regarding which will be announced at the annual meeting. The opening address of the session, October 9th, will be contributed by Mr. H. Dunkin, gardener to the Earl of Warwick. Subject: "Flowering Trees and Shrubs."

— CUPRESSUS MACROCARPA.—Writing a few notes in the Journal last May respecting the hardiness of this Conifer, I then stated that I had never seen a tree of it killed outright with the frost, and from the then appearance of the forty or so trees here it looked as if the recent winter had only injured them. Since that time, however, I find that four out of them have died. In July they showed unmistakeable signs of being killed, having turned a rusty brown all over. One of the number, I regret to say, was the tallest specimen growing here, being a little over 60 feet in height, and of the upright or fastigate habit. The severe winters of 1879, 1880, and 1881 did not kill any Cupressus macrocarpa here, but the last prolonged winter proved too much for some of them; 28° of frost was the most recorded here.—H., *North Hants.*

— TUBEROUS BEGONIAS are to be seen in all directions at Street, Somerset, cottagers as well as amateurs and private gardeners growing them remarkably well both in pots and the open borders. As might be expected, the best displays are to be seen in the leading gardens in the neighbourhood, and they are remarkably good as grown by Mr. F. Edwards, gardener to James Clarke, Esq. Several beds were wonderfully gay during the wet weather in August, Zonal Pelargoniums cutting but a sorry figure alongside the Begonias. Most of the varieties were unnamed seedlings, the preference for planting being given to bulbs of the previous season's raising. There were, however, several beds planted with Phosphorescence, a remarkably free, though small semi-double flowering variety of dense growth, raised, I believe, by Messrs. Laing & Sons. Begonias are also very effectively employed in the gardens of F. Clarke, Esq., several rustic vases being very gay with them.—I.

— I HAVE sent you a sample of the EVESHAM EARLY TOMATO for inspection. It is a variety that is grown very much in this neighbourhood for open air culture, and I do not remember seeing any account of it in the Journal. I have it growing along with Laxton's Open Air, Abundance, Stamfordian, and Large Red, and I find it a week earlier than Laxton's, which is next earliest, all being from seed sown about middle of January last. It does not grow so large as some of the others, but I find it more solid and even in size than the more corrugated varieties. It is a very good cropper. The samples are not the

largest bunches I have had this season. Up to the present time I do not find it go bad as much as the other varieties which are growing beside it. Last year was considered a bad season, but I had a good crop. It is very dwarf, and I find it the best to select and save the seed myself.—F. NORMAN, *Evesham*. [The fruits sent were of a medium but useful size, and the bunches of ten and twelve each show how prolific the variety is.]

— EAST ANGLIAN HORTICULTURAL CLUB.—The members of this progressive club betook themselves to Dereham on Friday last, having been invited by Mr. John Green of the Norfolk Nurseries. They left Thorpe Station by the 3.20 train (special arrangements having previously been made by the Hon. Secretary, Mr. Albert F. Upstone, with the railway company), and were cordially received at Dereham by Mr. Green, who accompanied them to his grounds close at hand. The party, which numbered about eighty, divided into sections and scoured the pretty environs of the town, eventually meeting in a large tent specially erected in the grounds. After tea the usual toasts were given, interspersed with various songs, and a vote of thanks to Mr. Green, the members dispersed, and left by the 9.15 p.m. train for Norwich. Mr. F. Morris of Witton (President) and Mr. George Daniels (Hon. Treasurer) headed the expedition, and added much to the success of the affair. Many new members were enrolled, chiefly amateurs, and it is yet felt that hundreds in East Anglia might avail themselves of this society, particulars of which will be given by the Hon. Secretary, at Messrs. Daniels Bros., Exchange Street.

— AUSTRALIAN FRUIT IMPORTATIONS.—We have received the following from the Chief Commissioner of The Australian Irrigation Colonies, 35, Queen Victoria Street, London, E.C. The probability of large shipments of fruits to this country being made from our Australian colonies in the early future, the practicability of which has been so recently demonstrated by the great quantities of excellent Tasmanian Apples with which our markets have this year been supplied, is now further exemplified by the arrival this week of a small consignment of raisins from the Australian Irrigation Colonies on the river Murray, being the first fruits received from these settlements, the establishment of which, some three or four years ago, has been attended with such remarkable success that their progress has been described by a colonial bishop who recently visited them (Dr. Thornton of Ballarat) as simply "amazing." A quantity of raisins are now on view at the London offices of the Australian Irrigation Colonies, 35, Queen Victoria Street, E.C. They are entirely sun-dried—the clear dry atmosphere of that part of Australia where the settlements are situated enabling the drying of all descriptions of fruit to be carried out in the most perfect manner and without risk of injury. They have been pronounced of excellent quality both in flavour and appearance, and are very attractively put up in 2 lb., 6 lb., and 12 lb. boxes. The above consignment will, in due course, be followed by others of a no less interesting character, embracing the following valuable fruits of commerce:—Oranges, Lemons, Raisins, Currants, Apricots, Peaches, Figs, &c., together with wine, olive oil, and other products, for which a large demand is anticipated in this country in future years. The total area of land constituting the Australian Irrigation Colonies, and of which some 25,000 acres at each of the two settlements (Mildura and Renmark) are now being dealt with, will fall but little short of half a million acres; and although the colonial demand will probably absorb the entire production for some years.

#### GLADIOLI.

I AM indeed sorry for "D., Deal." On page 263 he tells us that he has not suffered such a disappointment for twenty years as to be prevented putting in an appearance at the Crystal Palace Show this year. I was not there; but I hope "D., Deal," himself put in an appearance, as one of the oldest and most successful of Gladioli cultivators, although owing to the lateness of the season his "spikes" were not sufficiently forward for exhibition purposes.

"D., Deal," mentions Atlas, Baroness Burdett-Coutts, and Ondine as amongst the earliest bloomers with him. Ondine is to-day, September 28th, just showing colour, and Atlas just out with me in East Suffolk, while my two comers of Baroness Burdett-Coutts have gone wrong altogether. My earliest here is Shakespeare, followed by Mons. A. Brongniart (a splendid flower and spike), Horace Vernet, Matador, Crépule (very fine). These are quite over. I have now some very fine spikes of Cameleon, Hesperide (lovely), Conquerant, Amitié, Titania, and Carnation. Among those not quite showing colour on the eve of the festival of St. Michael of All Angels, though the spikes are fine, may be mentioned Mount Etna, Ovide, Phœbus, Pollux, Cervantes, Formosa, Africaine, and Enchantresse. In addition to Baroness Burdett-Coutts I have to number Grand Rouge, Cervantes, Phœbus, Mount Etna, and Rayon d'Or among the actual deaths.



My soil is light to a depth of 15 inches, with a thinnish stratum of clay below. Would "D., Deal," advise me to cut off the spikes of those not showing colour?—J. A. W.

## THE EDINBURGH SHOW.

### NEW PLANTS.

I SHOULD like to know if any experienced plantsmen observed the class for new plants at Edinburgh closely and carefully; if they did their opinions as to the relative merit of the exhibits would be worth having. I have spent a life amongst plants, and most of the novelties of the last quarter of a century have passed through my hands, and in my judgment the collection of new plants from Messrs. B. S. Williams & Son, Upper Holloway, were well worthy of the first prize, though the second was awarded them. Healthy young specimens were shown of *Cattleya Massaiana*, *Dracæna Malletti*, *Dicksonia Lathamii*, *Anthurium eburneum*, *Alocasia Chantrieri*, and *Pteris tremula elegans*, all good and distinct kinds.—A SURREY GARDENER.

### STEALING FRUIT.

THIS subject has very properly been brought to the front, and though I was not a sufferer myself I was present at the fight for the fruit, and know several who are very serious losers by the affair, for which they could obtain no remedy; in fact, their complaints were treated in a very off-handed manner by some of the officials. Whole bunches of Grapes, boards and all, were lost; nor was this confined to the fruit classes, for several lost their boards, tubes, and all the appliances. If this was the first time anything of the kind had taken place it would be excusable, but grave complaints of a similar character have been made in the past, and seemingly with no result. Several exhibitors in the North of England could relate some rather startling experiences in this matter if they were only inclined to do so. Mr. J. McIndoe, for instance, could tell a little history.—R. M.

It was with great pleasure I read the note in the Journal of September 24th on the above subject, accompanied with considerable regret that there should be cause at such a Show for so grievous a complaint. That there is great cause for complaint I can testify, being myself a victim of the light-fingered fraternity who visited the Show. In the course of competitions I have known single specimens taken from the plates on the benches, but it was not until I exhibited at Edinburgh that I experienced the mortification of having whole plates of Peaches, Figs, Nectarines, and collections of Pears and Apples taken. Having received a hint before on this matter I made a struggle to get to my exhibits as soon as possible, but notwithstanding I was there early I found others had been before me, and my fruit was stolen. I am fully aware these facts must be considered as a somewhat grave charge against the management of the Show, but the Council must in their turn consider this must be shown up by gardeners in self protection, and with a view to altering the arrangements, which at any rate should be such as to prevent pilfering on such a scale. To many gardeners, myself included, it is most serious, as I have to return my fruits to my employer's table, and unless we can do so no doubt we shall be either debarred from showing or have to find fresh employers. Besides this, I would like to give what might be considered by some a rather presumptuous piece of advice—namely, that civility on the part of officials tends to increase the popularity of an exhibition. When I saw the "riot and rabble," and noticed the manner people were helping themselves inside, I could not help contrasting the way the Exhibition was managed with that at Exeter. If the Council do not see how to prevent the present state of affairs, they would be spending their money well by sending a deputation to Exeter, where no doubt the officials will receive them with courtesy and freely give them any information they require. Trusting I have not occupied too much of your valuable space.—T. H. CRASP, *Canford Gardens, Wimborne*.

"A VISITOR" at the above Show deserves the thanks of all interested for calling attention to the extremely rough treatment experienced by exhibitors, and I thoroughly endorse all his remarks. Evidently "A Visitor" was not an exhibitor, or he would in all probability have had something to say on the inconvenience caused by gardeners not being able to get their exhibits into the Waverley Market till after mid-day previous to the Show. More than one gardener was told he might take his fruit to the — when he asked where he must put it, and this in some cases after exhibitors had come several hundreds of miles. Surely all courteous men are entitled to courteous treatment, but this was far from being the case at Edinburgh. While making all allowance for the usual market held on Tuesday, I can see no reason why some better arrangements could not be made, not only before the opening, but

also at the closing of the Show. As to loss of fruit I might say a good deal, as my loss was considerable, but there seems to be no remedy.—AN EXHIBITOR.

### AWARDS TO NON-COMPETING EXHIBITS.

It was stated recently that no awards had been made to the non-competing exhibits at the recent International Show in Edinburgh with the exception of the magnificent exhibit of plants, flowers, and fruit from Messrs. Thomson & Son of Clovenfords. We have received an intimation to the effect that the Council of the Royal Caledonian Society held a meeting on September 23rd "to arrange as to special awards," and a list was promised as soon as ready. Just as we are going to press the subjoined has been received, but one correspondent has written to this effect:—"If any awards were to be accorded to my exhibits and those of other firms, it would have been much better to have announced them at the time of the Show, or at least immediately afterwards. Now it will be of little or no value to me from a business point of view."

Royal Caledonian Horticultural Society's International Show, 9th, 10th, and 11th September, 1891. Special awards recommended for exhibits not in competition.

GOLD MEDAL (awarded by the Judges).—Messrs. Thomson and Sons, Tweed Vineyard, Clovenfords, for large table of choice exotic plants, fruit, flowers, and vegetables.

SILVER-GILT MEDALS.—The Royal Horticultural Society, London, for table of Apples, Plums, Damsons, and Tomatoes; Messrs. Geo. Bunyard & Co., Maidstone, Kent, for collection of Apples, Pears, Plums, Kentish Cob Nuts; Mr. Walker, Ham, Surrey, for collection of Apples and Pears; Messrs. Birkenhead, Sale, Manchester, for collection of Ferns; Messrs. Cannell and Sons, Swanley, Kent, for collection of Cactus Dahlias, double Begonias, &c.; Messrs. Dickson & Sons, nurserymen, Edinburgh, for collection of Conifers; Messrs. Williams & Son, Holloway, London, for collection of stove and greenhouse plants.

SILVER MEDALS.—Messrs. Cheal & Sons, Crawley, Sussex, for collection of Apples and Pears, set off with stands of Dahlias, &c.; Mr. John Watkins, Pomona Farm, Hereford, for collection of Apples, Pears, Plums, Damsons, Cider Apples, Perry Pears, Cider Champagne, and Perry Champagne; Messrs. Cocker & Sons, Aberdeen, for collection of Roses and other cut flowers; Messrs. Cross and Sons, Glasgow, for collections of fruits, flowers, plants, and vegetables; Mr. H. Deverill, Banbury, Oxfordshire, for a table of Onions, Carrots, Leeks, &c.; Messrs. Dobbie & Co., Rothesay, for table of choice varieties of cut flowers, &c.; Messrs. Laing and Sons, Forest Hill, London, for table of Begonias and useful decorative plants, &c.; Messrs. Dicksons & Co., Edinburgh, for table of miscellaneous decorative plants; Messrs. Methven & Sons, Edinburgh, for table of decorative plants, &c.; The Saratoga Packing Company, California, for exhibit of sun-dried Californian Prunes; Mr. James Taylor, Bangholm, Edinburgh, for collection of vegetables put up as sent to market; Mr. Currar, Eskbank, for *Oncidium incurvum*, awarded for good culture; Mr. A. McGregor, for *Saccolabium Blumei majus*, awarded for good culture.

BRONZE MEDALS.—Mr. Rust, Eridge Castle Gardens, Sussex, for collection of Apples and Pears grown at an altitude of 400 feet above sea level; Mr. Campbell, Blantyre, Lanarkshire, for table of cut flowers, &c.; Mr. Cuthbertson, Rothesay, Bute, for table of cut flowers, &c.; Messrs. Laing & Mather, Kelso, for collection of Carnations and other cut flowers; Messrs. Stuart & Mein, Kelso, for table of choice flowers, &c.; Messrs. Cutbush & Son, Highgate, London, for table of miscellaneous decorative plants; Mr. Hugh Dickson, Belmont Nursery, Belfast, for exhibit of forty-eight blooms of Mrs. John Laing Rose.

### EREMURUS HIMALAICUS.

A HANDSOME example of this stately plant was sent to the Temple Show last May by Mr. John J. Smyth, Rathcoursey, Ballinacurra, Ireland, when the Floral Committee awarded a first-class certificate for it, an honour that was well merited, for it is one of the most distinct and effective members of a comparatively little known genus. The tall scapes bear numerous small white fragrant flowers, and as the plant is perennial and quite hardy in most southern districts it will become a favourite.

There are few species of *Eremurus* in cultivation, but about eighteen are known to botanists, and in Mr. G. Nicholson's Dictionary the following are noted:—*E. himalaicus*, flowers white, star-shaped; scape 1½ feet to 2 feet in height, bearing a densely packed raceme; leaves strap-shaped, acute, glabrous, entire, about 1 foot in length. *Himalaya*, 1881. *E. Korolkowi* is a rare and handsome species, from Central Asia, growing from 3 feet to 4 feet high, and bearing immense spikes of bright rose flowers. *E. Olgæ*.—Flowers white, star-shaped, with



projecting stamens; disposed in a long dense raceme; summer; leaves tufted, linear, scabrous, recurved. Turkestan, 1881. *E. robustus*.—Flower peach-coloured, disposed in an elongated raceme on a naked

spreading, sulphur-coloured sepals, slightly tinged with orange; anthers oblong, deep orange; June; leaves radical, linear-ligulate, glaucous-green, slightly channelled, and obscurely keeled, sheathing at



FIG. 56.—EREMURUS HIMALAICUS.

scape, from 8 feet to 9 feet in height; leaves rosette-formed, 4 inches wide, and from  $2\frac{1}{2}$  feet to 3 feet long. Turkestan, 1874. *E. spectabilis*.—Flowers sulphur-coloured; raceme elongated, sub-cylindrical, many flowered; perianth divided to the very base, with six ovate-elliptical,

base; height 2 feet. Siberia, 1800. *E. turkestanicus* (Turkestan).—Flowers reddish-brown; perianth segments margined with white; stamens much exserted; raceme very long and dense, borne on a tall scape; leaves broad-linear, acuminate; height, 4 feet.



## A QUAIN GARDEN.

I KNOW of no better adjective to use in describing the garden of my friend, Mr. J. S. Cousens, at Grove Road, Wanstead. It is not what we call an old-fashioned garden, for that implies Yew hedges, Box edgings, grassy walks, and such like, which do not exist here, but a quaint garden it is; and I do not wonder now that when subjects for discussion arise at our Horticultural Club meetings Mr. Cousens has something to say or show. There are no Orchids, few stove or greenhouse plants, but with those exceptions there is something of everything—trees and shrubs, fruit trees, herbaceous plants, and above all Ferns are to be met with in all directions. There is no order or regularity any more than there is in my own garden—fruits, flowers, vegetables, shrubs jostle one another, and you are continually meeting with surprises where you least expect them. The garden or gardens, for there are two or three of them, are of some extent for a suburban garden, being about an acre and a half in extent, the outer one being, however, mainly occupied with grass and a border running round it. In one of these is one of those old-fashioned greenhouses which were in vogue in former days, with a curious constructed roof in the centre and two wings, the one containing a Vine, and the other used for all sorts of plants. The centre is paved with flagstones, as they used to do in those days, and could only be utilised for standing plants on to flower, or plants in large pots or tubs. It was an expensive one I have no doubt, and is equally so to keep up, requiring a good deal of heating, glazing, and painting; in fact, I should imagine it must be to my friend rather a sort of white elephant. As to the gardens themselves it would be vain to attempt their description; in fact they would resent it. Take my own. When people say to me, "You must have a beautiful garden," my reply always is, "No; but I have a garden with beautiful things in it," and so I must just try and jot down a few things which struck me in my wandering round Mr. Cousens' garden.

Mr. Cousens is a great admirer of British Ferns, and being a neighbour and intimate friend of one of our foremost pteridologists (save the mark), Mr. C. T. Druery, it is no wonder that the Fern fever is strong upon him, and consequently in going about the gardens you meet with Ferns in all directions—in frames, on rockeries, in houses, and in glass cases; Ferns of all sorts, tasselled, crested, frilled, and I know not what, precious in the eyes of experts, but to many an outsider only monstrosities. It may be very interesting, and I do not deny it, to see the beautiful Lady Fern turned into that curious form A. F. f. Frizelliae, but I cannot for a moment admit that it is to be compared in beauty to the normal form. Then there are dwarf forms which suggest a stoppage of growth somewhere or at some time, and of course these giant ones are in favour here. Many are the varieties of the crispum varieties of Scolopendrium, amongst them one found by Mr. Cousens, and named after him Cousensi. Here, again, are pans of seedling Ferns raised from spores, many, strange to say, coming true. Here, again, is a case of Filmy Ferns in which the Killarney Fern is flourishing, as is also the Tunbridge Wells Fern and several others of the Filmies; and here, as if to exemplify my title, is a pot containing no less than four varieties of Fern gathered in one clump from the top of Lyons Cathedral. Then here is the crested variety of the Royal Fern (*Osmunda regalis*), doing well and flowering freely, and so one might linger over these treasures which would be so dear to a real Fern lover. But even here there is a Mordecai at the gate, in the shape of the Fern beetle, one of those pests for which there seems neither prevention or cure. In one of the rockeries it was abundant, the leaves were riddled with it, and Mr. Cousens said the roots were thoroughly infested. There seemed to be no remedy but taking up the plants, washing the roots, and replanting, when, perhaps, they would return again in a couple of years.

But this is not the only pest to which the garden has been subjected, the caterpillar of the goat moth (*Cossus ligniperda*) seems in some seasons to be abundant in this neighbourhood, and it attacked some small bush Apples which were obtained from Mr. Bunyard of Maidstone. There were two short rows of them on either side of a walk. Down one side the moth seems to have made her journey, and deposited an egg on each tree. The places of entrance and exit were clearly seen, but, strange to say, the trees had shot out from lower down than the point of entrance, and had a very abundant crop of good and large fruit on them. I do not think that it is usual for this caterpillar to attack such small trees as these, preferring larger fruit trees, and some of our forest trees, especially the Elm. It remains for two years in the larva state, and I should have been inclined to think that these ravages were due to one of the clearwings, but I fear the *Cossus* must be credited with it. The Black Currant bushes were attacked here in a very curious manner, and I shall be anxious to find out what is the cause. The pith in all the branches, great and small, had turned completely black and dried up; the leaves of the bushes were shrivelled, and all of them looked doomed. I have never met with anything of the kind before.

But these are not the only destructive pests Mr. Cousens has to cope with. A discharged gardener is worse than a Fern beetle or a *Cossus* if he be a vindictive man. One such he had, and after he left he found that various pieces of spite and malice had been committed, amongst which was the barking just under the ground of a small tree of *Salisburia adiantifolia*, which was much prized. In order to kill it, the bark had been taken off right round the stem. In order to preserve it Mr. Cousens tried an unusual remedy: he cut off one of the branches, peeled off the bark, and applied it to the place where the damage had been done, much in the way in which surgeons nowadays repair a man's nose, plastered it, and bound it up. The adhesion took place, and the

tree survives—a memory not so much of vindictiveness as of the ingenuity of the owner.

In walking round we come to a clump of *Aucuba* raised from a packet of seed from Lee of Hammersmith, near whose nursery Mr. Cousens in his early days lived. The plants exhibit that wonderful variety which we find in Nature everywhere, no two being alike, and several of them being beautiful; and this is one interesting thing in this garden that its owner is able to tell some little history connected with so many of its inmates. On an arched trellis over one of the side walks is trailing shrub, which, although common enough, and introduced here about two centuries ago, I had never before seen—*Lycium barbarum*. It is a rapid grower, bearing small violet flowers, which are surrounded by a bright red soft fruit, of which birds are very fond. It makes an ornamental creeper for such a position. As the plant gets older and stronger the stems with which it is furnished become fewer. Close by this is some of that queer Japan vegetable about which so much noise was made some time ago—the *Crosnes de Japon* or *Stachys*. I notice it because it seemed to be coming into flower, and it would therefore be interesting, as I understand that was the difficulty in determining its true position. Another curious thing is a large Cape bulb, round in shape and having enormously fleshy roots. The leaves are very long, and when broken across there are long filaments, very fine, which can be drawn out to a considerable length, and under the microscope give the appearance of twisted cables. Although Mr. Cousens had had this for seven or eight years, and although it has increased much, and he has tried it in various ways, in pots large and small, and on the open ground, but he has never yet been able to get it to flower. I have suggested his sending it to Kew, where he would no doubt learn all about it. There was a very pretty white trailing *Campanula*. Whether it was *turbinata* or not I am not quite sure, but it was appearing in all sorts of places, evidently at home, and making a home for itself. Here, again, were a number of seedling plants of *Eucalyptus*, the seed of which had come from Mr. Wilks. Here was a plant of variegated or golden Box, which Mr. Wildsmith had given him on one of our Horticultural Club excursions. In the greenhouse there were some plants of a very pretty and useful double white *Petunia*, useful for those who use double flowers for decorations. Here, again, was a quarter containing the best varieties of Cactus and other Dahlias, and against a wall were two trees of Peaches and Nectarines literally laden with fruits. In other places were clumps of *Salpiglossis*; here a fine plant of *Diplacus* full of blossom, and so all through the garden. You ask Mr. Cousens about a plant. "Oh, yes; here it is." And so in this quaint garden you may find a great deal to interest, but I need hardly say that to enter fully into it you must be a Fern lover.

I hope that these brief notes will show that a good deal of pleasure may be had out of a limited space, and that when Mr. Cousens asked me to visit him and said, "I think that you can show you something that may interest you," he was as good as his word. As we might suppose, he has other curios of a different character, but my concern has been simply to show that there are things in this quaint garden worth looking at.—D., Deal.

## THE PRINCIPLES OF PRUNING.

THE brief digest of Mr. Wright's lecture at the Conference of the British Fruit Growers' Association at the Crystal Palace recently contains many interesting points in connection with the proper management of fruit trees under the head of pruning. I have long since found the advantage of maintaining a thin centre in various kinds of fruit trees, any trouble spent in this way during the summer is laying the foundation for future heavy crops of fruit.

Nothing could be more strongly in favour of this practice as a row of Red Currant trees growing here. Each tree is restricted to six to ten branches, the trees standing on a clear stem; every one of them reach 5 to 6 feet high, each branch is thickly clustered with fine fruits every year, not a few here and a gap there, but a continuous string from top to bottom. This I attribute to attention to removal of the bulk of the shoots during the month of June, so that the spurs and the buds about them may under the influence of the sun and air mature thoroughly, which is the all-important secret in the production of next year's crop of fruit. Some persons may say, "Oh! but Red Currants will grow and fruit well without the trouble of summer pruning." They may do, but in our case the end justifies the aim, and what holds good in this case does so in others. No more striking instance of the advisability of maintaining a thin centre by attention during the summer could be found than in the case of some Apple trees, especially three of Warner's King and the same number of Cox's Orange Pippin, standards as well as bushes. A system of extension training has been practised. Shoots from 2 to 3 feet long have simply had the points removed, but the branches have been kept thin; and although the trees have grown vigorously they have never needed root-pruning, and have not once failed to give us a full crop of good fruit for the last ten years. With such strong growing sorts as Warner's King, which succeeds so well in a retentive soil like ours, it is a good plan to tie the branches downwards to the soil, not below a horizontal position of course. This plan not only gives shape to the trees, but admits light and air to the leaves and buds in the centre of the trees, which in return will scarcely ever fail to give a full crop of fruit. Trees so managed are much better able to withstand adverse weather. Even frost will not injure the blossoms of trees that mature every portion of their growth annually under a rational system of pruning and training. The latter, no doubt, is of great assistance to the former. It often happens that branches are far too close together



to admit of their remaining so simply by pruning, but by judicious training the necessity for reducing the size of the tree is avoided, and a fuller crop of fruit assured.

Some trees of the same variety planted last autumn have made shoots this year nearly a yard long. Beyond removing the extreme point of growth—many have been already treated so—they will not be pruned any more, but the branches will be spread out to give space to the inner parts of the tree for the purpose of maturing leaves and trees alike. No matter how strong these trees may grow I do not apprehend that they will require root-pruning, a judicious manipulation of the branches will cause fruitfulness. I am a firm believer in the encouragement of a corresponding number and kind of roots to the branches. Trees which lack healthy roots cannot have a profusion of branches; the two must go together. Many trees have too much winter pruning, as Mr. Wright rightly says, and are followed by strong growth. Where space will admit the extension system of training is to be recommended, which will generally dispense with the necessity of root-pruning. Where so many persons err in pruning is with newly planted trees, and especially in the case of standards, they do not cut them far enough back the first year. Close pruning gives increased vigour, afterwards to be followed by extension training.

Mère de Ménage is generally considered to be a shy-bearing sort, but if growers would allow it more freedom in growth, at the same time not crowd its branches, I think there would be less cause for complaint. This is looked upon as a certain cropper here. One tree planted as a pyramid twelve years ago now reaches 20 feet high, the thinly disposed branches being at the present time heavily laden with extra fine fruit, the colour of which under such conditions may easily be guessed. Cherries are another instance of the wisdom of this plan. A close summer pruning, keeping the main branches thin, results every year in a full, generally extra full, crop of fruit; in fact I have never known them to fail. Gooseberries are the same, Peaches ditto; in fact, nearly all kinds of hardy fruit will come under the head of "sure croppers" provided a rational system of pruning is carried out and the natural weather elements are anything like propitious during the time the trees are in full bloom.—E. MOLYNEUX.



#### PROSPECTS OF THE SEASON.

WE shall expect to find the columns of the Journal again become full of useful and interesting Chrysanthemum news in the course of the next week or two, for as soon as October arrives attention is earnestly turned to these ever popular plants, and we amateurs are on the look out for every item that can be turned to account. The fine weather of the past few days is improving matters considerably, but up to then the prospect was not by any means all that could be desired. The sunless summer caused much rank growth which had not been well matured, and buds were not likely to develop freely into the kind of flowers we require now to enter even a very modest competition at local shows. If it be not too late a few weeks' fine weather will greatly help matters, and though gloomy forebodings have been expressed by experienced growers the events may prove better than expected.

It is especially interesting to learn something about the collections at the various noted exhibiting gardens and nurseries, and we shall look eagerly for a continuation of the notes which the Journal has favoured us with for some years.—AMATEUR.

#### DOWNSIDE.

IT is surprising what changes are brought about in different establishments by a change of owners. Downside when owned by Mr. Lee gained a reputation that was probably unsurpassed for the fine collection of Orchids. The glass houses, which are numerous, were all designed especially for their culture and well-being. Seldom we find houses so well provided with tanks of water that run the whole length of the house beneath the stages. We must pass from what Downside was, and turn to what it is now and bids fair to become in the future under the ownership of A. Tate, Esq. Those who knew Mr. Tate and his tastes when in the neighbourhood of Liverpool will not be surprised to learn that he is cultivating on a large scale his favourite flower, the Rose, with that enthusiasm that only true rosarians possess. A large amount of success in exhibiting has already been attained, and we have no doubt that before long Downside will be as popular for its Roses as it was formerly for Orchids.

For the benefit of those who have never visited Downside, it may be said that it is situated at Leatherhead, on the side of a hill, and commands extensive views of the Surrey hills and the surrounding country—a beautiful landscape splendidly wooded. The character of Downside has been almost entirely changed since Mr. Tate took possession; some extensive alterations have been made, and others are in progress or contemplation. It is not what may be called a "large" place, but it is extending—adjoining land has been purchased and added to it. Borders

of trees and shrubs have been planted with clumps here and there, which in a few years will give it quite a park-like appearance, and add much to the beauty of its surroundings. Extensive herbaceous borders have been made round one side of the pleasure grounds, which will not only be effective but useful when they are well filled with a choice selection of plants. Portions of ground once occupied by vegetables and crowded with trees and shrubs have been cleared and sown with grass. Large chalk banks on the left of the drive have had a thicket of underwood, beneath some fine Elms, removed from them, and the chalk lowered fully 3 or 4 feet or more in places that had been formerly piled round the stems of the large forest trees that fringe the hill side. The removal of so much chalk has been a work of magnitude, so as to give the bank an easy slope. A winding walk under the shade of these trees has been formed with little bits of rockwork at intervals and patches of plants. When the newly sown grass is established this part of the grounds will look well.

We must just glance at the Rose garden, which covers a large space of ground, and is to be extended again this autumn. A thousand Hybrid Perpetuals were planted last autumn, besides Teas and other Roses. The whole of the Rose garden can be seen from the residence, which stands on higher ground. The garden in question more nearly approaches my ideal of a Rose garden than any I have seen before. It is laid out in squares that hold about four rows of plants with broad grass walks between each. The larger or central beds are divided by a hedge of the old Gloire de Dijon. The hedges are to be extended, and will be broken up at distances by suitable pillar varieties that will be allowed to stand up well above the rest. In the centre of this garden is what is commonly known as a rosery formed of wire which is planted with various climbing varieties. To correspond with this are wire arches in various positions spanning the grass walks that have been alluded to. One object has been to render the garden effective from the residence as well as from any point from which it may be viewed. The broad walks of grass will prevent the garden ever having the crowded appearance of too many Rose gardens. It must not be thought that Mr. Tate is growing Roses only that are suitable for exhibiting; this is by no means the case. One portion of this garden, and the most attractive at the time of my visit, is almost exclusively devoted to China and Polyantha Roses, which were covered with thousands of their small but fragrant flowers. Apart from their beauty in the Rose garden, the beds of these miniature Roses were, without exception, the most effective we have seen this year. These Roses deserve to be planted on a much larger scale in gardens generally for ornamental purposes. Beds of the following were noticed—Mignonette, very fine; Perle d'Or, very striking in colour, even prettier than the famous William Allan Richardson; The Pet or Parquerette, Gloire de Polyantha, and several others. The absence of a note-book and limited time prevented my taking any notes; suffice it to say that this Rose garden contains examples already of nearly every section of the Rose. One or more of the glass houses has been altered and planted with Tea varieties, while a large number had been forced in pots and were standing outside. A scroll pattern of beds which border the Rose garden were filled with such sweet-scented flowers as Carnations and Mignonette, favourites that are not out of place in any position.

Chrysanthemums were everywhere on the walks close to the houses, and wonderfully well they looked. Some hundreds of plants are grown, and later on will make a grand display in the large Cattleya house which I understood was being reserved for the purpose, the sides of which were covered with Tomatoes bearing some large fine-shaped fruit. The houses at present call for no special note, they are being filled with various stove and greenhouse flowering and foliage plants, with a few Orchids. The fruit and kitchen gardens are not being neglected, the latter is being extended, while the old trees in the former are to be grubbed up and young planted, while others are to have their roots lifted out of the chalk and brought near the surface.

My best thanks are due to Mr. Tate for his kindness and courtesy in showing me his garden, and also to his gardener, Mr. Wm. Mease, who seems quite at home and happy in his new sphere of labour, and whose abilities need no comment from me.—A COUNTRYMAN.

#### GARDENING AS A CALLING.

[A paper by Mr. CHARLES GIBSON, Morden Park Gardens, Mitcham, read at a recent meeting of the Croydon Gardeners' and Amateurs' Mutual Improvement Society.]

GARDENING is one of the oldest callings, and provides some of the purest pleasures and most elevating employment. It is admitted by statesmen in charge of the weighty matters of the nation, and by merchants in hard pursuit of trade and commerce, that they derive great delight and solace from their gardens in their intervals of leisure. But the pleasures of the garden are not confined to statesmen and the wealthy, but extend to all classes down to the cottager, who enjoys his favourite Fuchsia or Geranium as much as the gentleman does his Orchid. The cottager comes out well at exhibitions with produce of excellent quality, especially vegetables, and near large towns where exhibitions are held for special flowers—Roses, Carnations, Pansies, or Chrysanthemums; but whatever the subject is, the enthusiasm is extraordinary, and consequently their products good, for seldom are extra fine specimens shown without that enthusiasm. The prosperity the country has enjoyed through the Victorian era has added large numbers to the wealthy classes who all admire and enjoy their gardens in various degrees, and employ gardeners to conduct them. In no other country is horticulture carried on with the same all-round excellence. One of



the agencies which has contributed so much to the wealth of the country—steam power—has also been the cause of our gardens being enriched with choice plants from all parts of the world. The speed with which plants are dispatched home renders loss comparatively small to what it was formerly. The trade of the horticultural builder has developed into a science for building handsome structures to accommodate the choice treasures from abroad, and made a grand addition to the pleasures of the garden. At no time of the year are they more appreciated than in winter.

Gardens possess so much beauty and interest it is not surprising so many men should aspire to make them an occupation for a livelihood, as it is not difficult to find an opening for a start in a garden, although more difficult to obtain a situation as head when qualified for the post. When the garden is seen in its best condition, and all things look so charming, the difficulties to be met, enemies to be conquered, and wintry days to be passed, are not always considered. One wishing to become a gardener should not be afraid of work; he must take a pleasure in his work, and in time he will feel a certain amount of pleasure in being able to master his difficulties. The young gardener has advantages now he did not possess formerly, but more is expected of him. Before the present system of heating became general the gardener had to be up the greater part of the night in bad weather. Now houses have to be filled all the year round to supply the requirements of the establishments, instead of having fruit houses empty half the year as formerly. Fruit and flowers are grown in the same houses, and constant vigilance is required to detect the first symptoms of disease or insects, and apply remedies before serious mischief is done. It requires great experience to detect at a glance the first symptoms of insects and diseases, but the gardener is assisted by the horticultural sundriesman with every aid for banishing them when detected.

There is such a variety of work in the garden, and the cultivation of so many subjects to be well acquainted with, that a boy wishing to adopt gardening as a calling should begin at the age of fourteen. A fair education can be gained by a boy of average ability by that age with the improved methods of teaching now in use at schools. This should be supplemented by attendance at evening classes where possible. In most towns classes are held on winter evenings, where much instruction can be gained that will be useful to the future gardener, and makes a pleasant recreation at the same time. Efforts should be made to get a good knowledge of geometry, as this is very useful to gardeners in many ways. In country districts much may be done by young gardeners meeting together and helping each other, and often a good teacher can be procured to give occasional lessons. Winter evenings are golden opportunities for young men to improve themselves and acquire knowledge, opportunities which diminish as responsibilities increase. One interesting recreation may be found in keeping a book with the English and botanical names of every plant entered, and the natural orders they belong to. It is a capital plan of getting them well fixed in the memory. A second book might be kept for little sprays of shrubs, &c., dried between blotting-paper. They should be neatly fastened in the book with name, and will be useful for reference.

It should be the aim of everyone wishing to become a gardener to make himself conversant with every branch of the business. It used to be considered the thing to get under glass, and once established there the other part of the garden was looked upon as comparatively unimportant, and it was only discovered too late that a mistake had been made in neglecting the kitchen garden department. Fashion changes in gardens, and it behoves a gardener to be abreast of the times. The demand now is for more fruit and vegetables. Hardy fruits must have good attention, and it is no slight matter to be able to keep up a continuous supply of the best vegetables. It requires a good knowledge of the best varieties, nature of the soil, as the soil often varies in the same garden, and times of sowing, as well as cultural treatment. The fine collections of vegetables shown at the leading exhibitions require the best skill of the gardener. In the flower garden herbaceous plants are becoming more popular year by year. They not only impart variety in the garden, but are also useful to meet the growing demand for cut flowers.

To acquire a thorough training I consider a youth should have four or five years in a good garden, and then to change into other gardens to gain further experience. A year or two spent in a good nursery will be a benefit, to gain an insight into methods of doing many things not acquired in a private garden. These changes, besides giving practical experience, are useful in many other ways to gardeners if they hope to hold long service in private situations, where they not only have to study the wishes of their employers, but their equals and those under them.

Other means of acquiring knowledge of their calling are mutual improvement societies and horticultural exhibitions, visiting brother gardeners occasionally, and when opportunities occur visiting leading nurseries and noted gardens. Nothing gives a gardener more pleasure than going to see a show or visiting gardens, and it is a convincing proof, if one were needed, of the love they have for their calling. Although there are many other aids I will but mention one more—the horticultural Press. The various papers contain sound information on every subject connected with the garden, reports of the leading societies and exhibitions, notices of new flowers, fruits, and vegetables, and all news of interest to the gardener brought to his notice week by week. The gardening papers are a credit to the enterprise of their conductors and to their contributors; one at least, more if possible, should be read constantly by everyone connected with the garden.

One pleasant experience in a gardener's career is where he is allowed by his employer to exhibit and becomes successful. Exhibiting rouses some men to active exertion, which so far from being injurious is beneficial to health. To some it brings disappointment, but this often arises from attempting too much. It is more satisfactory to win in a small class than lose in a large one. Employers as a rule are willing for their gardeners to exhibit, and justly proud of their success when it does not curtail the pleasures of the garden in other ways. Gardeners as a rule repay the privilege accorded them with extra exertion to meet home wants and wishes. Where the privilege is abused it brings dissatisfaction and leads to its discontinuance, but the great increase of shows and exhibitors indicates the general approval. The pay of a gardener is a weak point, for while wages have gone up in most callings, in this they have either remained stationary or somewhat declined. But medium sized gardens have greatly increased in numbers, giving scope for a good class of gardening and providing comfortable situations at wages equal to the best artisans in good trades. The wages of the gardener are regular, and supplemented generally by privileges, while artisans are liable to stoppages and to be called away from their homes to work at a distance. One disadvantage is that a gardener, having so much to learn before he feels confident to undertake a situation as head, frequently finds himself nearly thirty years of age before he is able to obtain one, with some of the best years of his life passed at low wages. Many men get impatient at the delay and turn to other employment. It has been the custom in large gardens for the gardeners to take apprentices and improvers in such numbers that many have been unable to get situations when qualified for it. If more skilled labourers were employed and fewer apprentices it should reduce the number somewhat, taking only the most promising ones with a genuine and eager desire to become gardeners. It used to be a passport to a situation if a candidate had been employed in a lord's or duke's garden. It remains to be seen whether the changes taking place in large gardens will not give the persevering man more chance.

To grow good produce in quantity is the aim now rather than to obtain a favourite dish by some particular date out of season. This is a branch of gardening that all should be familiar with, as in private places goods have to be packed for long or short distances, and if not properly packed the finest fruit and flowers are liable to injury. The decorative branch is another which should have special attention paid to it. Where one feels deficient in the decorative part it should be overcome as far as possible by noting the best examples of others, so as to avoid defects. Colours are important to a good effect, and the best decorators have light and graceful combinations, beginners' productions being as a rule too heavy. Horticultural exhibitions give scope for taste in arrangement in the groups, table decorations, sprays and buttonholes, basket and vases of flowers, and bouquets.

Many gardeners who were in private situations now have good businesses as florists or growers for market. They were persevering and enterprising, and when the opportunity presented itself seized it. With the present demand for flowers and fruit there are still openings for persevering and business men with a little capital, but many gardeners hold good situations in private places which have in a great measure been made by the men themselves. Confidence has to be won, and then retained by continued proof of worthiness. Although there is no formal union amongst gardeners, there is an unwritten bond of union amongst them, for no men are more sociable or more ready to help one another. There are also several important charitable institutions now that are well supported.

In conclusion, my opinion is that gardening offers as good an opening now for a persevering man as at any previous period. It is a healthy occupation, full of interest, capable of finding its own pleasures and amusements without going outside for excitements, and if one is only able to live respectably, and do justice to those dear to him without making a fortune, he has lived and done good useful service, filled an honourable position, and has no cause to regret the choice of gardening as a calling.

[Considerable interesting discussion followed, in which Messrs. Shoemith, Roffey, Bishop, Ritchings, Carr, and Cummins took part, and many important points were raised.]

### THE SUNNINGHILL VINERY, BY DERBY.

A VISIT to this vinery is a treat one would little expect from the quiet manner Mr. Innes has been carrying on his successful work during the last few years. Two lean-to houses have been erected against store-rooms, stables, and engine-house, and an original method of raising and heating water for the Vine borders forms a great feature in his success. The two houses in question, each 70 feet long by 16 feet wide, are heated with six rows of 4 inch pipes, and were planted with Muscats on the 10th August in Jubilee year, from eyes raised the same spring. They are 5 feet apart with two rods each. The borders were made very solid, and have two yearly dressings of fertilisers. We counted in the first house 250 bunches of Muscat of Alexandria, splendidly grown and finished, so compact and even in berry, averaging quite 2½ lbs. to the bunch. The top part of the house had still the supernumeraries with a grand crop of Gros Colman, and carrying just 250 bunches.

Two lofty span houses, 100 feet by 24 feet, were planted with Gros Colman in April, 1885, and the Vines are now carrying respectively 1500 and 1600 bunches, equally distributed from bottom to top of the houses, solid compact bunches with all the shoulders taken off, these are a fine



sight. There is also a house of Alicante of the same dimensions that Mr. Innes speaks of filling with Gros Colman. A new house erected last year, 100 feet by 21 feet, is planted with 1000 Tomatoes in seven rows 2 feet apart trained to wires, producing an enormous crop of splendid smooth fruits, with Gros Colman planted for permanent Vines. When Mr. Innes has covered the land with glass adjoining his charming residence, as he intends to do, he will have a place worthy of his efforts.—G. B.

### HYPERICUM MOSERIANUM.

WE have had occasion from time to time to note some fine additions to the lists of Hypericums, but these have been either newly introduced species, or improved varieties of older forms. In *Hypericum Moserianum* we have one of a very different character, and which is especially interesting from the fact that it is of hybrid origin. It was described about two years ago in the "Revue Horticole," and is stated the plant was raised by M. Moser of Versailles from a cross between *H. patulum* and the well known *H. calycinum*, the former being the seed parent.



FIG. 57.—HYPERICUM MOSERIANUM.

We also learn that the reverse cross was made with the same result, the product in both cases presenting a notable combination of the characters distinguishing the parents.

The hybrid has large golden yellow flowers, depicted of their natural size in the engraving (fig. 57), and the plant being of dwarf, compact, yet robust habit, it is capitally adapted for beds. In this way it has been employed at Kew with excellent results, and the flowers are produced over a period of several weeks during late summer—a great recommendation. A first-class certificate was awarded for a plant shown at the Royal Horticultural Society's meeting on August 25th this year.



### FRUIT FORCING.

**VINES.—Early Forced Houses.**—Vines that are to be forced to furnish ripe Grapes in March or early April should be started by the middle of November. It is not advisable to start permanently planted Vines so early where there is convenience for growing some in pots, as very early forcing is a great strain on the energies of the Vines through their having to make their growth at the dullest period of the year and to rest at the hottest, while there is danger that the foliage may collapse from attacks of red spider or ripen too early through lack of sufficient root moisture and aliment. This may cause the buds that are intended to furnish the succeeding year's crop of Grapes to start into growth at the time the Vines should be resting. It can only be prevented by retaining some lateral growths as an outlet for any sap which the roots absorb, and will do no harm provided they are not allowed to interfere with the free access of light and air to the principal leaves. These laterals should be removed gradually and continually from late August until early September, so as to admit of the Vines being pruned by or soon after the middle of September, and they will not bleed, nor will the buds be started into growth, the house being kept cool and dry. If not already pruned, the Vines intended for starting at the time named must be attended to at once, also those to be started in December should be pruned as soon as the foliage commences to fall, so as to give the Vines a few weeks rest. Outside borders, which are a great mistake where early forcing is practised, should be protected from autumn rains by covering them before the ground is chilled with continued wet and cold. A good covering of dry leaves with a little litter to prevent the leaves blowing about is an effective protection, and if tarpaulin is employed over all to throw off heavy rains and snow, nothing further need be done to outside borders, and they need not be covered until they have been well moistened by the autumn rains, yet before they become soddened and much reduced in temperature. Where, however, fermenting materials are available they are a great aid in forcing operations, and especially so for placing inside the house to generate and maintain a genial condition of the atmosphere without recourse to so much fire heat or sprinklings from the syringe. This we advise, and the abandonment of outside borders in early forcing, for covering outside borders is not economical, and the borders are too much deprived of atmospheric influences to assimilate plant food in proper quantity and essential form. The materials need not be used until the house is closed, but they will need to be thrown into a heap a week or ten days previously, turned and moistened if necessary. Three parts of Oak or Beech leaves to one part of stable litter will give a more suitable warmth, and the ammonia generated and volatilised will not be so great as from all dung. If there are plants in the house the fermenting materials must be well sweetened, or the foliage may be seriously injured by the vapour given out. Therefore mix them well together when thrown into the heap, damping them if dry, turning when getting warm, again damping if necessary, and when well warmed through they are fit for placing in the house.

**Early Forced Vines in Pots.**—This is the most eligible method of securing a supply of thin-skinned fresh ripe Grapes early in spring, which are a necessity in some establishments. We have tried many varieties and have not found any to surpass White Frontignan, Foster's Seedling, Black Hamburgh, and Madresfield Court. The great evil in forcing pot Vines is overcropping, the berries not attaining the size and perfection of colour and finish so essential to their high appreciation. Where bottom heat can be given to start them they will mark their appreciation by breaking freely. It is well to stand the pots on pedestals formed of loose bricks so that the rims are slightly higher than the pit edge, and so that the pots will be in the centre of the bed, which should be 3 to 4 feet wide and 3 feet deep. Leaves being placed in to fill the pit a gentle warmth will be afforded the Vines, and the roots will pass from the pots into the leaves, deriving support beneficial to the growth of the Vines, swelling and perfecting the Grapes. The temperature at the roots ought not to exceed 75°, and it is better to commence with it at 65°, and increase the warmth as the growth advances. In the atmosphere a temperature of 50° to 55° is ample until the buds begin to swell, then gradually increase it to 60° or 65° when they are breaking, allowing an advance from sun heat of 10° to 15°. The canes should be depressed to a horizontal position to secure their breaking regularly. Damp the canes morning and afternoon. To have ripe Grapes in March the Vines should not be started later than the early part of November.

**Midseason Houses.**—Black Hamburgh and other descriptions of thin-skinned black Grapes have the colour taken out of them by hanging, and can only be lessened by keeping a good spread of foliage or drawing a double thickness of herring nets over the roof lights. The latter is the preferable plan, as lateral growths interfere with light to the principal leaves and the free access of air so desirable for maturing the wood. Those from which the Grapes have been cut may have the growths cut back to a few joints above the buds, first curtailing the laterals, and then cutting back the main growths. This insures the buds



becoming plumper, whilst the freer access of light and air affects the wood favourably. A free circulation of air is necessary to expel damp where Grapes are hanging, with a little constantly to prevent the deposition of moisture on the berries, a gentle warmth in the hot-water pipes being necessary when the external air is cold and damp, but the wood being ripe and the growth matured it will suffice to maintain a temperature of 50°, and the cooler by day the house is kept the longer the Grapes will keep plump. Vines that have not the wood ripe should not have a less temperature than 60°, and this with a free circulation of air must be continued until there is no doubt on that point. Keep the laterals well in check, not allowing them to interfere with the chief growths.

*Young Vines.*—Those that have a disposition to continue growing to a late period may be checked by stopping the shoots moderately, and facilitate the ripening of the wood by a high and dry temperature by day, shutting off the heat and keeping the ventilators open by night.

*Late Grapes.*—Where these were started in March and aided in spring by fire heat, as well as during the summer, the Grapes will be thoroughly ripe, which is much better than having to maintain a forcing temperature after October comes in to secure the ripening of the fruit. In the latter case the temperature must not be less than 70° to 75° by day and 65° at night, falling 5° through the night, allowing an advance to 80° or 85° from sun heat, continuing this until the Grapes are ripe, at least until the wood is brown and hard. The fruit being thoroughly ripe, in which state only can the Grapes be expected to keep satisfactorily, and the wood thoroughly matured, all sprays or laterals may be removed down to the main buds, ventilating freely on all favourable occasions. Fire heat will then only be necessary to prevent the temperature falling below 50°. To prevent dust falling or settling on the berries raking or sweeping must not be practised. Mats or clean dry straw laid over the inside borders will to some extent prevent evaporation, assist in keeping the atmosphere dry, and prevent the soil cracking. The outside borders must be covered if the fruit is to keep well. Glass lights are best, wooden shutters good, and tarpaulin over dry bracken or straw answers well. A thick thatch of bracken or straw is very serviceable.

*CHERRIES.*—A house of Cherries is not common, but there is no fruit that is more interesting or more profitably grown under glass. The house for Cherries should be light, well ventilated both at the top and bottom, and if to be forced efficiently heated. Side lights may be dispensed with, but wooden ventilators should be provided to open the whole length of the house and on both sides of a span. The trees may be trained to a trellis fixed 12 inches from the glass, or the trees may be trained on bushes or dwarf standards and planted out. In the case of permanent or planted out trees it is desirable to have the roof lights moveable, so that the trees can be fully exposed after the crops are gathered and the growth perfected. A lean-to may be 10 to 12 feet and a span 15 to 18 feet wide with trees on each side, and in the lean-to the front trellis should only extend two-thirds up the roof and the upper part be kept 4 feet from the glass, so as to admit light to the trees on the back wall. Two rows of 4-inch piping will be sufficient for the lean-to and two rows on each side for the span, 3-inch for the 15 feet house, and 4-inch for the 18 to 24 feet wide house. The borders should be entirely inside and not made all at once. A 4 to 6 feet width of border, according to the size of the trees, is sufficient to commence with. It should be drained 9 to 12 inches deep, having proper drains to carry off superfluous water. Nothing answers better for drainage than brickbats with a 3-inch layer of old mortar rubbish over them. From 20 to 24 inches depth of soil is ample, but it must be deeper at first to allow for settling. Good turfy loam, preferably inclined to be heavy rather than light, four parts, lime rubbish from an old building one-fifth, and road scrapings one-sixth, the loam chopped up moderately small, the whole well incorporated, forms a suitable compost for Cherries. The trees may be planted as soon as the leaves begin to fall. Those that have been trained to walls four to six years are most suitable, as they will be in a fruitful state and calculated to give a crop of fruit the first season, and having been lifted annually they can be moved safely. The borders ought to be put together compactly, the trees firmly planted, and a good watering given, mulching the roots with a couple of inches thickness of short but not soapy manure. The most suitable variety is Black Tartarian, but Early Rivers precedes it, and should be given place where early fruit is required. Governor Wood is the best companion Cherry to Black Tartarian.

Cherries are readily forced in pots. This is a very desirable mode of cultivating this valuable fruit where variety and a long succession of fruit is in request. A cool house of Cherries in pots is a most useful adjunct to any establishment, and their culture is very simple, but the house must be well ventilated and the trees placed out of doors after their crops are removed, or the roof lights may be withdrawn for a time, especially when the trees are forced. Trees should be secured at once. If in pots they must be given a large size if they require it, disentangling the roots with a fork at the sides of the ball, and cutting back any straggling and thick ones. Provide good drainage and ram the soil firmly. Trees that are in as large pots as desired need only have the drainage rectified and the surface dressed, or the old drainage may be cleared away, a few inches from the base removed, the roots shortened back, and fresh soil given, as advised for borders, with a fifth of well-decayed manure, removing also the loose surface soil, and supplying rich material. If the trees are not already in pots, pyramids or bushes should be lifted, have their roots trimmed, and be potted firmly, allowing them to become established in the pots before subjecting them to forcing. The trees should be stood on a hard bottom impervious to worms, and surrounded with ashes to the rim, covering the pots with litter on the approach of frost. The trees should have a good watering

after potting or having the roots interfered with. For forcing in pots Early Rivers, Empress Eugénie, Black Tartarian, Governor Wood, Black Eagle, and Mammoth are good. For a cool house the following are first-rate, and afford a succession of fruit from an early to a late period:—Compact growers: Belle d'Orleans, Early Rivers, Early Red Bigarreau, Empress Eugénie, Bigarreau de Schrecken, Governor Wood, May Duke, Black Eagle, Archduke, Nouvelle Royal, Florence, and Late Duke. Large growers: Early Jaboulay, Black Tartarian, Bohemian Black Bigarreau, Elton, Reine Hortense, Bigarreau, Bigarreau de Mezel, Mammoth, Duchesse de Palluau, Bigarreau Napoleon, Belle Magnifique, and Tradescant's Heart.

#### THE KITCHEN GARDEN.

*TOMATOES.*—Disease has spoiled the greater portion of the outside crops; those that have escaped the most being located either against dry sheltered walls, under copings, and quite in the open. The first moderately severe frost would quite spoil the latter, and would also injure those against walls but otherwise unprotected. Seeing also that ripening nearly or quite fully grown fruit in heat greatly improves its quality, it is advisable on these grounds to clear the plants at once, hanging the fruit in bunches where they will ripen quickly. A dry forcing house, or failing this a kitchen in full use, answers well, single fruit being laid on the shelves. Thus treated much of the fruit will ripen sufficiently to eat in an uncooked state, and that which is not good enough for that would be improved by cooking. Should there be abundance of ripe fruit just now, convert much of this into sauce and ketchup, the latter being preferred by many connoisseurs; while quite the smallest fruit, and which would never ripen, could be made into excellent pickle or cooked in pies. Green fruit is also sometimes made into preserve, but with plenty of Plum jam there is less need of the Tomato substitute.

*TOMATOES UNDER GLASS.*—These, whether old or young, in pots or planted out in narrow ridges of poor loamy soil, ought now to be growing strongly, yet sturdily, the principal portion of the crops being either set, or in the course of being set, during September and October. Rank or soft growth is fatal to productiveness, and the most liable to take disease. The latter again spreads most rapidly during warm weather, and before much heat is kept in the hot-water pipes. In a dry, well heated atmosphere, such as can be maintained with the aid of heat constantly turned on, and air in small or larger quantities both night and day, according to the outer weather, disease makes but little headway, and under these conditions is less troublesome during the winter than at any other period of the year. The same treatment favours a sturdy fruitful growth, the flowers being strong and pollen abundant, nothing but a smart tap with a hazel twig towards midday being necessary to distribute the latter and to effect a good set. Lay in young growths thinly all over old plants, and stop the side shoots on young plants fruited cordon fashion at the first joint instead of cutting them cleanly out, fresh additions of young foliage being especially necessary where disease is troublesome. There is no necessity for or wisdom in starving Tomatoes, always provided the other extreme is avoided; therefore top-dress with loamy compost occasionally, heavy crops being further supported by surfacings of special manure, or with liquid manure. Sulphur on the hot-water pipes is fairly effective against disease during the winter months, and proves fatal to the troublesome white fly (*Aleyrodes vaporariorum*). Now is also a good time for trying other remedies for disease, including anti-fungus powder and the Bordeaux mixture.

*OPEN-AIR MUSHROOM BEDS.*—The early part of September is the best time to make or spawn open-air ridge-shaped beds, for the simple reason if all goes on well the crops will be produced towards the end of October and more or less throughout the winter. There is no reason, however, why other similar beds should not be made and spawned throughout October, as these, if properly managed, will yield exceptionally heavy crops early next spring, severe frosts not in the least impairing their productiveness, though too much moisture might. In any case it is of the greatest importance that the material be extra well prepared. Put together in a rank semi-raw state it is certain to heat very violently and perhaps fail to produce Mushrooms, while if the manure is too much exhausted of its heating properties failure may occur that way. Gentle fermentation, and turning it every alternate day is the better plan, this getting rid of much of the rankness in the course of a fortnight or rather more, without undue loss of vitality. If there is not sufficient moisture in it to insure gradual decay, then supply it with a watering-pot and rose, but saturating rains should be warded off with shutters or other contrivances. The manure being of a dark brown colour, sweet, and only just sufficiently moist to bind together when squeezed in the hand, is most probably in a fit state for making into beds. At least one part in three of the material should consist of short stained straw, the longer portions of the latter being stored and kept from heating in the dry, as this will be wanted for covering the beds. A ridge may be of any length, about 3 feet wide at the base, and nearly as much in height, the top being 6 inches or rather more across. It ought to be put together very firmly and neatly, and in a spot where the rainfall draws away rapidly, and if some shelter from cold winds is afforded so much the better. The preference, where possible, may well be given to a spot where neither moles nor mice can get at the beds, both being very fond of burrowing in them, while mice are also very partial to Mushrooms.

*SPAWNING THE BEDS.*—Two or more trial stakes ought to be thrust deeply into the beds when first made, and very heavy rains be warded off, without, however, unduly confining the heat. In mild weather



newly formed ridge-shaped beds are apt to heat very violently, and earlier in the season it is sometimes necessary to pull them to pieces and remake. There is less likelihood of this happening now, but at the same time they must be watched closely both before and after spawning. The heat probably will soon run up to 90° or rather more, but not till it declines to 80°, or till the trial stakes can be comfortably borne in the hand, should the spawning take place. Give the preference to fresh spawn, avoiding old or cheap substitutes, and break cakes or bricks into six, or not more than eight pieces, large lumps being the least liable to be injured by too much heat or steam. Insert these flatly, and just below the surface, in hand-made holes 8 inches apart all over the sides and ends of the beds, none being required for the tops, finishing off with a good beating with the back of a spade. Cover lightly with litter, and if there are no signs of an increase of heat ease over with soil four or five days after spawning. For this purpose use the best fresh loam procurable, breaking this up fine, and failing loam substitute well pulverised garden soil. Cover the beds evenly with about 2 inches of soil, making this firm with the back of a spade, but avoid watering and then plastering it, as injurious shrinkage and cracking would inevitably result. The casing of soil naturally prevents the loss of much heat, and over-heating may be the consequence. Therefore keep a close look out, and on the least sign of the heat increasing to an injurious extent at once form several deep holes down through the centre of the beds, this being best done with pointed iron rods. With such outlets for steam provided, the bed will be safeguarded. Neglect the precaution and failure will most probably be the result. Cover at first very lightly with strawy litter, but when the heat declines somewhat give a heavy covering of it, or, say, to a depth of 12 inches, finishing off with a neat thatch. This covering serves to keep the beds warm, and to ward off heavy rains.

**MUSHROOM BEDS IN SHEDS.**—It is not yet too late to form either flat or ridge-shaped beds in sheds, stables, or other sheltered positions. If they fail to commence cropping this winter they will, if not interfered with, yield abundance of good Mushrooms next spring. Such beds should be well screened from currents of cold air, and be also heavily covered with strawy litter.

## THE BEE-KEEPER.

### RETURNING FROM THE MOORS.

I RETURNED home from the moors after a six-weeks sojourn amidst a fine bloom of Heather and terrific storms of wind and rain, experiencing four calm days only all the time. The Heather at my time of leaving was still in fine order, but the weather was unpropitious. I observed in the Journal that August in London had been the coldest for many years, but at the Leadhills it was a higher temperature than the three preceding years.

Bees had no chance of gathering honey amidst such storms. Exposed hives were tumbled and blown about as if they had been sheaves of corn. They were taken to and from the moors without loss or mishap. Only a few were dead when released, a very different state of matters from others situated near where my own were, whose bees have been completely destroyed on the return journey, the chief causes being defective ventilation and closing the bees in when in a state of excitement. The best means of preventing such a calamity would have been in closing the entrances the evening or early morning previous to their departure, and a day or so sooner had the ventilators opened. I have often called the attention of readers to the fact how ill adapted the modern hives are for profitable bee-keeping, and can therefore corroborate the remarks of "A Hallamshire Bee-keeper" on this subject at page 276. There is no question but that in modern times bee husbandry has been chiefly taught by inexperienced men. The hives recommended by the modern school are by far too bulky and weighty, and are easily damaged by the prominent projections, in most cases quite unnecessary. Cheapness in the transport of hives is of the first consideration, for if that is wanting bee-keeping in its best aspect cannot be profitable.

Then again we all know how much the straw hive has been condemned by the modern school, and yet it has this year surpassed every form of wooden hives; they are the only ones at the moors that have given finished supers. Although I do not place straw hives as superior to wooden ones, still I hold that they are not so much inferior to wooden hives, from a profitable point of view, as has been represented. I shall have something more to say upon this subject on a future occasion.

So far as surplus honey is concerned I am inclined to think it will be almost a failure. It is true some hives have risen in

weight between 30 and 40 lbs., but the greater number of them will be between 10 and 20 lbs., just as much as with little feeding will make good stocks. The greatest surplus will be from surplus or condemned hives, and as these are mostly prime swarms the honey being from new combs will be of good quality, being the only combs that Scotch bee-keepers care to extract honey from, as doubtless old combs taint honey and often unpalatable.

### PUNIC BEES.

These have had a bad chance at the Heather. I introduced two pure queens as they were imported from Africa, one on the 13th and the other on the 20th June last. The first was put into a hive rather more than half full of combs, the whole of the honey being removed, and the half pound of bees fed 1 lb. of sugar. The other was joined to about three-quarters of a pound of bees having three half-sized combs, the others being partly filled with comb foundation, and had no feeding. The bees they were put against had their hives full minus three half combs (being three combs of one shallow division) the bees were crossed Carniolians, and had about 10 lbs. of honey, and were double the number of the Punic queens, the latter being in this respect much handicapped as a beginning. The Carniolian queens were young, and started laying some days before the Punics were introduced.

By the 1st of August the Punics were a long way ahead the Carniolians in numbers, and had there been honey to gather then or after they were taken to the Heather I have not the slightest doubt but they would have made a high record in honey gathering. But before the few fine days came the Carniolians were gaining strength, with the result of these bees being 2 lbs. ahead the Punics—that is from the time they were set down at the Heather till they were lifted; but if we take them from the 13th and 20th June the Punics are far ahead. I am not yet satisfied with the trial. The season has been bad, and the test, although seemingly fairly made, was in every respect against the Punic bee. The crossed Punics are again far ahead of other varieties, and have proved themselves the best honey gathering bees extant.

I am sorry the weather was so inauspicious as to prevent a thorough trial of to appearance the smartest bee yet imported. It was a treat to see them working when they had a chance. But further experience is necessary before I can confidently recommend them as superior honey gatherers.

### ARE THEY ROBBERS?

They are, perhaps, not more so than other varieties; but they have the knack of passing the sentinels of other hives without molestation, carrying off the honey in a style quite in keeping with the nigger race, and I am sure with an alacrity unseen and unknown in other varieties. This is one point in which I fail to support "Hallamshire Bee-keeper's" observations, for when the bees were let loose after they were home from the Heather they at once attacked several hives, and had I not contracted the entrances of the attacked hives, the Punics would very soon have made short work of them. At the Heather they attacked the strongest hives having wide entrances, and the robbing went on until I contracted the entrances of their hives. One extra working hive I observed loitering, gripping at stranger bees and covering the alighting board. I contracted its entrance, and the moment that was done the bees set to work vigorously. I, therefore, must dissent from the statement that narrow entrances favour robbing.

### A CAUSE OF ROBBING.

It often arises from the bees being gorged with honey. When bees are in transit they sometimes fill themselves to repletion; they then when let loose become an easy prey to robber bees, and do not or cannot defend themselves and their stores until they have disgorged themselves and rallied; they then defend their hive from intruders, and the robber bees of whatever variety are compelled to be honest.

When there is scattered honey in the hive, and the bees have comb to make, they are easily robbed, and can only be stopped by contracting the entrance. There is still another incitement to rob which I have often warned your readers against—viz., too



rapid feeding. Rapid or fast feeders as they are called are risky to use, as is the custom of opening weak hives and filling combs with syrup, the bees in both cases will become gorged and be unable to resist robbers.

The above are some of the conditions that affect bees when their hives are robbed and are in the same state we wish them to be when manipulating to prevent stings, or when joining two or more swarms together to prevent slaughter, and bee-keepers should study the different phases. Great care is necessary when feeding that it be not in excess of bees and combs, as well as to be careful all chinks and ventilators of hives be closed during a dearth of honey, or robbing and slaughter will be the order of the day. Other points of interest must be held over till a future occasion.

#### COLOUR IN BEES.

Some time since I drew the attention of your readers to the various colours in drones of the same variety. It is a well known fact that queens and the worker bees of different hives but of the same breed assume different colours; but there has never, so far as I have observed, been any explanation of that fact. During August of the present year, after the drones were either removed to the moors or were well killed off (although many are still living), a Carniolian queen was on the wing, and when she returned to her hive inside a small bee house having an arched entrance, and separated from the hive 4 inches, a light coloured drone came into contact with the queen, both disappearing between the hive and bee-house for a few seconds, when the queen entered the hive in a changed state, her progeny being of a very light colour, and similar to their father. We can now understand the cause of light and dark coloured bees; but who will explain the great variation in the colour of pure-bred drones?

#### PURE CARNIOLIANS.

I am glad to see an exporter of these bees stating in a Continental journal that Carniolians having yellow bands or stripes are not pure. This news would have come with more grace had he thrown more light on the subject, stating why they were ever crossed, or why it was that out of fifty queens I had from him several years ago only three produced workers free from yellow bands.

I have still the Carniolian in its pure state as imported some sixteen years ago, and think them worth keeping pure, so rare to be had from their native haunts in Austria. I am sure many beside myself would like to have these bees pure, and can see no reason why some enterprising person or firm should not start the breeding of these bees for sale in this country. There are numerous isolated places in Scotland where a limited number might be raised annually, and so preserve the most mild tempered bees in the world from extinction.—A LANARKSHIRE BEE-KEEPER.



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Books** (*H. T., Macclesfield, and F., Slough*).—Mr. Lewis Castle's manual on Orchids can be had post free from this office for 1s. 2½d. (*J. B.*).—We do not know any work of the kind you mention.

**Mustard and Cress for Market** (*H. O., Leytonstone*).—The number containing the article to which you refer has long been out of print, but you will find the same in No. 300 of *Garden-Work*, which can be had from this office, post free, 1½d.

**Caterpillars on Trees** (*Inquirer*).—The insect appears to be the caterpillar of one of the small moths called the Pearl moths. The species, we think, is that named *Spilonotes cinctalis*. It is not usual to find it feeding quite so late in the year, but this is a singular season. The food is various trees and shrubs, such as Hazel and Elm, also Maple and some fruit trees. From its habits it is difficult to deal with such a species if troublesome to the gardener. It runs with much celerity either backwards or forwards. If alarmed it usually falls from the food plant, and might be dislodged from leaves by vigorous shaking. We never heard of its being common enough to do any noticeable injury.

**Prairie Roses** (*A Subscriber*).—These are climbing Roses of vigorous habit and rapid growth, well adapted for covering walls, banks, wire trellises, and trunks of trees, but they are not much grown in this country, and little propagated by nurserymen, because in small demand. In your locality it would be necessary to give the plants a warm situation, preferably a wall or bank with southern exposure. On the latter they should be planted about 6 feet apart, and the growths may be pegged on the ground after the shoots are full grown and becoming ripened. They are beautiful as standards trained as "weepers," but the plants in this form are difficult to obtain. The only varieties we know to be cultivated in this country are Baltimore Belle, pale blush; and Caradori, flake white. The best time to cut Box and Privet hedges is in August, from the early part to September, as the season influences the growth. When Box requires much cutting in it should be done in spring, just before or when new growth is being made, choosing mild moist weather toward the latter part of April, or later if frosty.

**Vine Leaves** (*G. S.*).—The leaves have had their surfaces injured by some deleterious substance, or been acted upon by heat so as to cause the destruction of the tissues to the extent of the blotches, which extend over much, and in some cases, the whole of the leaf. There is no trace of animal or vegetable parasites—insects or fungi—but there is a whitish deposit on some of the leaves, which may be a result of using water containing lime. The petioles of the leaves are perfectly healthy; no trace whatever of shanking, nor does it affect the leaves. The blotches are simply caused by scorching. It may be by the use of a corrosive solution; by keeping the house close and moist during cold and prolonged sunless weather, and then the sun in a bright subsequent period acts on their watery tissues, heating them, and thus causing them to scorch, because air has not been admitted early and insured evaporation from their surfaces, and consequently heating slowly and correspondingly with the surrounding air. They may also scorch through inferior glass, or its clearness would cause the leaves to scorch by admitting more light and heat, especially after a dull period, than they are able to endure. This often occurs with Vines under large panes of clear glass, and their tissues being soft, both through the cultivator's effort to induce as much growth as possible and the inherent tendency of young Vines to have tender tissues. Hence we find these scorched by sun whilst older Vines under more rational treatment have their foliage intact. Fumigation would also produce the scorching when excessive, especially if the foliage were moist. That something of the kind indicated is the cause of the leaves being scorched we have no doubt. The leaves certainly are very small, very thin in texture, but they are perfectly healthy, and their footstalks and veins have the rich reddish purple tint or the yellow hue so characteristic of a due supply of nutriment of the chlorophyll-forming character, and we should say that all the Vines want, as regards soil constituents, is a supply of phosphatic manure, as steamed bone meal or superphosphate, and may be potash, but that would be supplied in the leaf soil. Provided the natural soil is a good loam, containing over 50 per cent. of sand, not more than 20 to 25 per cent. of clay, and 5 to 10 per cent. of lime, there is no reason why it should not grow good Grapes with the essential humus—5 to 10 per cent., which seems to have been added—namely, a lot of rotten leaves and old hotbed manure. That soil, naturally or artificially well drained, ought to grow good Grapes under judicious management. The soil, however, may not be suitable, yet it is a mistake to assume that the turfy loam of an old pasture only will grow Grapes, for we have found that the soil of many gardens is far better suited for Grape growing than loam had at great expense off soils not suitable for Vine growth.

**Cucumber and Melon Leaves** (*T. B.*).—The Cucumber leaves are large, thin in texture, and have the appearance of those produced by plants that are infested with eelworm (*Tylenchus* or *Vibrio devastatrix*), in the stems and roots. Though large, the leaves appear ill nourished, and they flag and scorch under powerful sun, some becoming blackened at the edges, and over a considerable portion of the leaves; whilst other parts turn yellow, and are blotched as if scorched by sun. The fruit exudes a gum-like fluid, and extravasation of sap also takes place from the stems. For this disease there is practically no remedy for infested plants, but it certainly is not caused or accelerated by "too much soot and burnt refuse in the soil," unless it produces over-luxuriance and weakens the tissues. This, however, will not cause the infestation by eelworms, though it may facilitate their attacks; for these pests are present in the soil, and usually attack plants that lack a proper supply of potassic elements, as Clover, and plants which, through a deficiency of that substance and phosphoric acid, are unable to assimilate nitrogen. Burnt refuse ought to supply the necessary potash, and soot the needful nitrogen, but there may be a deficiency of other ash elements which are essential to give solidity to the growths, and better enable them to



resist attacks of eelworms and similar micro-parasitic pests. An excess of nitrogenous manures certainly tends to favour eelworms, but they attack plants under any and all circumstances, and there is practically no remedy for this disease. The only means that we have found of any value was to use sweet soil only, and keep it in heaps well exposed to the air and dry until it became well nitrogenised by the minute organisms that exist in the soil for that purpose, and which they often fail to effect through the absence of, or insufficiency of lime in the soil. When fresh turf is used we have found it an excellent plan to heat it in an oven or over a wood fire to the extent of killing the herbage and the micro-parasites that subsist upon it, particularly that of leguminous plants. In using turf it is a capital plan to mix a bushel of quicklime with every ten of turf some little time in advance of using it for compost. This causes the decay of the vegetable matter; but there is no loss, for the nitrogenous elements are converted into nitrates by the minute organisms already referred to. Instead of using nitrogenous manures for Cucumbers and Melons we have found it most advantageous to use phosphates or superphosphates, and if other elements are needed apply them in sulphate form, or as sulphate of ammonia when vigour is needed; but it certainly is not required by your plants, their chief need appears to be solidification and less stimulation. The Melon leaves have far more substance, and evidently only required more air and less atmospheric moisture to have succeeded. But you say nothing about the mealy bug on one of the Melon leaves sent to us. That and the sulphur splashes on the leaves prove that the culture is not of the cleanliest, and without that it is useless expecting good results.

**Grapes Ripening** (*Lady Gardener*).—Gros Colman Grapes are rather late in commencing to colour as compared with the early and midseason varieties, they, and all the thick-skinned late varieties, requiring a long season of growth and a longer time to colour and ripen properly. The temperature you are keeping is quite sufficient, but these Grapes do not finish satisfactorily in artificial heat unless they have plenty of sunshine and air. This is the reason that we advocate starting late Vines not later than March, and giving them encouragement in spring, so that they may be well advanced in growth when the weather becomes warm and the days are long. This secures to the Vines the best part of the year to swell and finish their crops, and all thick-skinned late Grapes should have an opportunity of colouring and perfecting during the months of August and September, during which the solar light and warmth are not greatly diminished. This is not only better for the Vines than artificial heat, but it is more economical, for the most that is then needed is a gentle warmth in the hot-water pipes to insure a circulation of air, and keep the Vines in steady progress during any cold or dull periods that may prevail. It will very much depend upon the state of the weather and the advanced condition of the Grapes as to whether you will be able to ripen them or not. If the Grapes are only commencing to colour they will not ripen perfectly, and though they may colour, which is doubtful, the Grapes will not have the quality and keeping value of those that were ripened under more advantageous conditions. Water will not help them to colour and ripen, but rather retard both. Unless the border is becoming deficient in moisture watering should be avoided; at the same time it is necessary that the soil be kept healthfully moist, and if you give a supply let it be tepid and apply early on a fine day, giving enough to moisten the soil through to the drainage. Watering would not do Gros Colman and Black Alicante any harm whatever, but it would have a prejudicial effect on Madresfield Court, probably causing the berries to crack, especially if the atmosphere of the house were kept close. The half swollen berries on Madresfield Court Grape may be due to shanking, and that such is the case appears probable from such berries shrivelling, but as they have not moved since the stoning process their smallness may be a consequence of imperfect fertilisation. Their only being half coloured indicates shanking. A high temperature causes Grapes to shrivel even when not ripe at this time of year. We should continue the temperature at 60° to 65° at night, and keep it at 70° to 75° by day, and utilise sun heat as much as possible by keeping the ventilators not more open than is sufficient to insure a circulation of air, allowing the moisture resulting from evaporation to pass off freely, and the temperature may rise to 85° or 90° without prejudice to the Grapes. On dull days it is better to keep the house at the maximum night temperature—namely, 65°, than have recourse to sharp firing, and cause the Vines to excessively evaporate, when assimilation cannot possibly take place, and the loss thus occasioned is made manifest in the shrivelling of the Grapes. This is a common occurrence, and is often attributed to lack of moisture at the roots. Dryness at the roots certainly will cause the Grapes to shrivel, and of this matter—namely, the need of water, you only can form a right conclusion. If the soil be moist water will do no good, but absolute harm; but if the soil is dry, or inclined to be dry, a thorough watering, as before advised, will be necessary to enable the Grapes to finish and prevent their shrinking.

**Names of Fruits.**—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot

be preserved. (*J. A. R.*).—The Pear is not known. (*Mr. Clay*).—The Plum is Washington. (*Rev. C. P.*).—Beurré Langelier. (*G. H.*).—Both fruits sent are of one variety—i.e., Royal George. (*D. C. Cousins*).—1, Marie Louise; 2, Beurré Amande; 3 and 6, unknown; 4, Manx Codlin; 5, Tom Putt. (*T. W. Wellington*).—1, Cox's Pomona. 2, Striped Beefing; 3, Lane's Prince Albert; 4 and 5, not known; 6, Devonshire Quarrenden. (*F. G.*).—Peach Royal George. 1, Gravenstein; 2, Cox's Orange Pippin; 3, Winter Hawthornden; 4 and 5, not in condition for naming; 6, Longville's Kernel. (*W. M. E.*).—2, Winter Greening; 1, not known. (*J. W.*).—1, Unknown; 2, Beurré Capiaumont; 3, Knight's Monarch; 4, Doyenné du Comice; 5, Autumn Compôte; 6, Lawson's Golden Gage. The plant is *Choisya ternata*. (*A. J.*).—1, Not known; 2, Foster's White Seedling; 3, Madresfield Court; 4, Trebbiano; 5, Mrs. Pearson; 6, Golden Hamburgh. (*A. H. P.*).—The Pear is *Sucrée Vert*.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*G. J. B.*).—The pieces of shrubs sent would not be determined in that condition. The variegated *Asplenium Adiantum-nigrum* is well worth preservation. (*J. W.*).—The plant is probably *Cyphomandra betacea*, which is sometimes termed the Tree Tomato. (*D. D.*).—*Thalictrum adiantifolium*. (*R. S. B.*).—*Malus floribunda*, which is figured in vol. xv. of the *Flore de Serres*. (*H. S. B.*).—*Lophospermum scandens*. (*S. K.*).—We do not undertake to name trees from leaves, and you furnish no particulars as to habit. (*W. H.*).—The above remarks also apply to your specimens. The flower is *Nerine Fothergilli*.

### TRADE CATALOGUES RECEIVED.

L. Späth, Rextorf, Berlin.—*General Catalogue*.

J. W. Woodward, 63, Grenville Road, Hornsey Rise.—*Catalogue of Bulbs*.

Dobie & Mason, 22, Oak Street, Manchester.—*Catalogue of Bulbs*.

Charles Turner, The Royal Nurseries, Slough.—*Catalogue of Roses, Fruit Trees, and Nursery Stock*.

### COVENT GARDEN MARKET.—SEPTEMBER 30TH.

MARKET lighter this week, Plums being nearly finished and pickers employed on Hops. Prices firmer.

#### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, ½-sieve .. ..	1	0	to	3	9	Oranges, per 100 .. ..	4	0	to	9	0
Cobs, Kent per 100 lbs. ..	40	0	0	0	Peaches, per doz... ..	1	0	6	0		
Grapes, per lb... ..	0	6	1	9	Plums, ½-sieve .. ..	1	0	3	6		
Lemons, case .. ..	15	0	20	0	St. Michael Pines, each..	3	0	8	0		

#### VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Asparagus, per bundle ..	0	0	to	0	0	Mushrooms, punnet ..	0	8	to	0	10
Beans, Kidney, per bush. .	1	0		2	0	Mustard & Cress, punnet	0	2		0	0
Beet, Red, dozen .. ..	1	0		0	0	Onions, bunch .. ..	0	3		0	5
Carrots, bunch .. ..	0	4		0	0	Parsley, dozen bunches	2	0		3	0
Cauliflowers, dozen.. ..	2	0		3	0	Parsnips, dozen .. ..	1	0		0	0
Celery, bundle .. ..	1	0		1	3	Potatoes, per cwt. ....	8	0		4	0
Coleworts, doz. bunches	2	0		4	0	Salsafy, bundle .. ..	1	0		1	6
Cucumbers, doz. ....	1	0		2	6	Scorzenera, bundle .. ..	1	6		0	0
Endive, dozen .. ..	1	3		1	6	Shallots, per lb. ....	0	3		0	0
Herbs, bunch .. ..	0	3		0	0	Spinach, bushel .. ..	2	0		0	0
Leeks, bunch .. ..	0	2		0	0	Tomatoes, per lb. ....	0	2		0	4
Lettuce, score .. ..	0	9		1	0	Turnips, bunch .. ..	0	0		0	4

### AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms not plentiful in variety.											
	s.	d.		s.	d.		s.	d.	s.	d.	
Arum Lilies, 12 blooms ..	3	0	to	6	0	Marguerites, 12 bunches	2	0	to	4	0
Asters, doz. bunches ..	2	0		6	0	Maidenhair Fern, dozen					
(French) doz. bchs. .	9	0		12	0	bunches .. .. .	4	0		9	0
Bonvardias, bunch ..	0	6		1	0	Marigolds doz. bunches ..	1	0		2	0
Carnations, 12 blooms ..	0	9		1	6	Mignonette, 12 bunches..	1	6		3	0
Carnations, doz. bunches	4	0		6	0	Myosotis, dozen bunches	2	0		4	0
Chrysanthemums, dozen						Pansies, dozen bunches..	1	0		2	0
bunches .. .. .	4	0		9	0	Pelargoniums, 12 bunches	4	0		9	0
Chrysanthemums, dozen						" scarlet, 12 bchs	3	0		4	0
blooms .. .. .	0	9		3	0	Primula (double) 12 sprays	0	6		1	0
Dahlias, doz. bunches ..	1	6		4	0	Pyrethrum, doz. bunches	2	0		4	0
Encharis, dozen .. ..	2	0		4	0	Roses (indoor), dozen ..	0	6		1	6
Gardenias, per doz. ....	1	6		4	0	" (mixed), doz. bchs.	2	0		6	0
Gladiolus, dozen bunches	4	0		8	0	" Red (English) per					
" per 100 spikes ..	8	0		10	0	dozen blooms ..	0	9		1	0
Lapageria, 12 blooms ..	1	0		3	0	" Tea, white, dozen..	1	0		2	0
Lavender, dozen bunches	4	0		5	0	" Yellow, dozen ..	2	0		4	0
Lilium longiflorum, 12						Sweet Peas, doz. bunches	2	0		3	0
blooms .. .. .	3	0		5	0	Sweet Sultan, doz. bchs.	2	0		4	0
Lilium (var.) doz. blooms	1	0		3	0	Tuberose, 12 blooms ..	0	8		0	6

### PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralia Sieboldi, dozen ..	6	0	to 12	0	Ficus elastica, each.. ..	1	6	to 7	0
Arbor Vitæ (golden) doz.	6	0	12	0	Foliage plants, var., each	2	0	10	0
Asters, dozen pots .. ..	3	0	6	0	Fuchsia, per doz. ....	4	0	6	0
Begonias (varicus), doz.	4	0	9	0	Heliotrope, per doz. ....	4	0	6	0
Campanula, various, doz.	6	0	12	0	Hydrangeas, per doz. ....	8	0	12	0
Chrysanthemums, per doz.	4	0	9	0	Lilium, various, doz. ....	18	0	30	0
Coleus (various), per doz.	3	0	6	0	Marguerite Daisy, dozen	6	0	12	0
Dracæna terminalis, doz.	24	0	42	0	Mignonette, per dozen ..	3	0	6	0
"    viridis, dozen ..	12	0	24	0	Myrtles, dozen .. ..	6	0	12	0
Enonymus, var., dozen ..	6	0	18	0	Palms, in var., each. .	2	6	21	0
Evergreens, in var., dozen	6	0	24	0	Pelargoniums, per doz. ..	6	0	9	0
Ferns, in variety, dozen..	4	0	18	0	Pelargoniums,scarlet, doz	2	6	4	0





## FARMS IN HAND.

THE example given last week of a run-out farm, and the account of its reclamation from a state of comparative barrenness to one of fertility, is but one of many which might be cited to show something of the many aspects in which land management presents itself to us. On that farm every stroke was the result of deliberate forethought, of a settled purpose and plan, and as we have shown by the wise and timely assistance of the landlord it was carried through to a successful end. Not, be it remembered, that we ever are at the end of such work. When a man undertakes to reclaim farmed-out land he must bear in mind that, however carefully restored, land of all kinds falls out of condition again quickly if again neglected. To turn a farm of 400 acres into what was practically a sheep run means one of two things—either that it is to be steadily maintained in a high state of fertility by an energetic and comprehensive system of cultivation, into which sheep folding enters largely, or it is to sink to the level of ordinary pasture, and the sheep left to roam at will. Cultivation here means drainage, weeding, the application of manure, the timely mowing of hay crops, all simple enough, yet so seldom done in the right way, if done at all.

We say, therefore, get the farm into condition as carefully and quickly as may be, and keep it so. All our best farmers use enormous quantities of manure, they literally cram the soil with it, and it answers, just because it gives them crops altogether beyond the ordinary bulk, and of the highest quality. We have seen striking examples of this near large towns, and away in the country. As a general rule sheep farming on a large scale is a safe thing, but the farmer must know his way, and place no reliance on shepherds, and not too much on bailiffs. No, his must be the eye and hand to guide and control, and he will do better than others, because he is always looking forward. To purchase a breeding flock is expensive, and it must be done gradually and with due caution, but never purchase old or inferior animals, for that points to losses and vexation.

It will of course be conceded that a dairy farm has its own peculiar claims. Can we turn our farm to account for such a purpose? Quite possible, only here we have to consider locality before deciding upon the class of dairy farm that will answer our purpose best. Avoid a small cheese or butter dairy; it will not answer, and there will be much disappointment and loss in the future. Either send the milk to a butter factory, or consign it to a salesman. Get it away from the farm morning and night, and the process will be simple enough, and there can be no question but it is profitable. There must be a clean warm cow house, and elevated cistern and refrigerator, and a station or factory cart.

The cows are the rock on which so many home farmers split. Why buy pedigree stock? Why buy any cows or bulls at fancy prices? We know a home farm where the accounts at the last audit were upwards of a thousand pounds to the bad. But then if good people will do such foolish things as to squander their employer's money upon costly stock we say they court failure and ruin, for that was the practical outcome of this extravagance. We know another farm to which additions are made annually, upon which there is an annual loss of several hundreds. Here pedigree stock of all kinds is purchased and bred, but the result is perennial complaints and heart-burning.

Now, why not obtain cows at prices well within the means of an ordinary tenant farmer? Not mongrels, but of such fine breeds

as Red Polls, the Guernseys, or polled Aberdeens? We are confident that excellent animals of such breeds can be had at an average price of £15 per head, and that is decidedly what we term a safe price, because any inferior milker can always be fattened profitably. For the milk market Dutch and Shorthorns often have preference, because they yield such large quantities of poor milk, which meets as ready a sale as the other. Very curious is the deep milking property of a cow. We know a certain village in the midlands where the parson's cow yields 6 gallons of milk night and morning, or 48 quarts daily. His man always takes two buckets to the milking, so abundant is the yield, and what is more to the purpose the milk is of excellent quality. Every farm in the parish is a dairy farm, yet not one of the farmers can approach the parson in this matter. Conceive of a herd of such cows! Why not, why can we not have it? Simply because of the little extra care and trouble involved; yet that is how we approach perfection even in this matter by selection and careful breeding for half a lifetime.

## WORK ON THE HOME FARM.

The corn has been cleared, and the threshing machine has sent its unsuccessful droning far and wide over the land, for as we are told so frequently at this season of the year, "farmers must have straw." Of course they never want money! But that is what the brisk corn threshing really means, for there is harvest to pay for, and it has become so much a matter of hand to mouth with them that very few farmers have the money for harvest payments beforehand. Half a crown is given to each man when the agreement for price is made, and then the men should have £1 weekly on account, but do they? The whole state of things is rotten to the core. There can be no doubt that very many corn farmers are still sadly straitened in means, and that their best efforts are consequently crippled, and they are unable to bide their time for a market. They must have money at any cost, so the corn is threshed prematurely and sold for what it will fetch. Well, we can only say to all and sundry, Don't thresh your corn yet, for the Wheat will probably be soft, and the Barley on sweat in the stacks. Get at the land, and keep the ploughs and harrows going briskly. Every fine day is a golden opportunity for the future; turn it to full account now, and it will make a week's difference next spring. Get the land clean, and then ridge it at once, taking care that water furrows are carried through into the nearest ditch. There will be the land high and dry, cleansed by every passing shower, sweetened by every storm that blows, ready to your hand next spring like a bed of ashes.

Pasture growth is so abundant that it is certain there will be much old fog to clear off at the back end of the current year. Just consider if you have the class of stock to do this. We think the home farmer's dairy cows ought never to be put to this sort of grazing. In Leicestershire, where the cheese making ends with October, and then most of the cows are "dried," it appears to answer; but we are bound to say the cows fell off sadly in condition last winter under this regimen, and a little inferior hay scattered once daily about the pasture. Of course their exposure to all weathers must tell upon condition, and it is questionable if they would have come out much better in spring had they had plenty of really good food. All these things are comparative, but let the home farmer see that his cows have the best food and the best shelter.

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

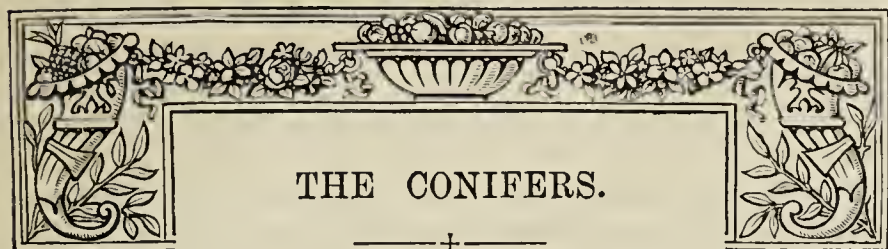
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.					Rain
1891. September.		Barometer at 329 and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Temperature.		Radiation Temperature.			
			Dry.	Wet.			Max.	Min.	In sun.	On grass		
		Inches.	deg.	deg.	S.	deg.	deg.	deg.	deg.	In.		
Sunday ..... 20		29.755	61.3	58.6	S.	58.8	66.5	57.2	94.2	52.9	0.038	
Monday ..... 21		29.747	53.3	49.6	W.	58.0	61.3	49.3	108.8	46.8	0.063	
Tuesday ..... 22		29.741	54.4	51.2	N.E.	56.5	63.8	46.4	110.1	42.6	0.052	
Wednesday .. 23		30.129	55.6	63.4	N.	55.9	61.7	49.2	101.4	42.7	—	
Thursday .... 24		30.239	54.3	54.2	E.	55.3	63.6	43.3	88.1	39.4	0.092	
Friday ..... 25		31.247	59.6	57.8	S.W.	55.6	69.6	54.1	105.9	55.3	—	
Saturday .... 26		29.861	60.6	55.1	S.W.	55.2	63.6	55.0	87.2	47.8	0.023	
		29.930	57.4	54.3		56.6	64.3	50.6	99.4	46.8	0.269	

## REMARKS.

20th.—Bright till 11 A.M., then generally cloudy, with occasional spots of rain.  
 21st.—Overcast and showery till 9 A.M., then generally bright till mid-day, and frequent showers after.  
 22nd.—Bright till 11 A.M., heavy rain at 11.20 and noon, then bright again, thunder from 4.43 to 5 P.M., lightning at 4.43 P.M.  
 23rd.—Cloudy till 4 P.M., then bright.  
 24th.—Fog early, bright sunshine from 9 A.M. to noon, generally cloudy, with spots of rain in afternoon.  
 25th.—Wet early, and generally bright after 10 A.M.  
 26th.—Squally mornings, but fair; shower about 11.30 A.M., then fine.  
 An unsettled week with frequent showers, but a good deal of bright sunshine. Temperature slightly above the average.—G. J. SYMONS.





## THE CONIFERS.

THE family of the Coniferae is one of the most distinctly defined, interesting, and important in the vegetable world, and the Royal Horticultural Society has done well in providing an Exhibition and Conference which should attract prominent attention to such a group of ornamental and useful plants. The Conifers which adorn our gardens and parks, or furnish us from distant regions with an apparently inexhaustible supply of timber, also possess numerous other interesting aspects. Though opinions differ as to their landscape value, and some prefer the varied seasonable changes displayed by deciduous trees, yet we find within the family a great diversity of habit—from the boldest Pines to the most graceful Firs, Cypresses, or Retinosporas. The shades of green that distinguish the foliage are also innumerable, ranging from the darkest and most sombre tints to the lightest and brightest silvery or bluish glaucousness. The Conifers are interesting, too, as representing the flora of widely extended regions, both north and south, and their value is increased by the fact that a large proportion of the species are hardy in Britain. To the student they also present a great subject, linking long past geological ages with the present, and furnishing in the wonderful coal supplies a very practical reminder of the essential utility of the family in all its stages of development.

At one time, within the memory of many readers, much attention was paid to the Conifers for ornamental purposes, and the formation of a pinetum was considered almost indispensable in the design for establishments of any pretensions. Where the situations were well chosen and the circumstances favourable these have now become grand examples of their respective kinds, but on the other hand, the injudicious selection of species which had not been sufficiently tested as regards their hardiness, and planting in unsuitable soils, led to failures that had a most deterrent effect upon the extended popularity of the plants. These failures, in fact, have checked the planting of Conifers on a large scale, which have been neglected in a surprising manner, when it is remembered how many examples of conspicuous success have been observed and chronicled.

In extensive pleasure grounds and parks many strong-growing Conifers can be advantageously planted in numbers. On the other hand, in gardens near the house, or wherever space is restricted, quite a different selection must be made, and ultimate success will depend greatly upon the judgment exercised in this matter. The position, soil, and climate of a garden also require consideration, as many fine Conifers will thrive in the south and west of England that prove quite unsatisfactory in the north, or in any cold exposed localities. In regard to this, however, protection in the early stages is a matter of much importance, as numbers of reputedly tender Conifers only need some adequate screens from cold winds for a few years until they are well established and growing freely. In most northern gardens abundant examples of this are afforded, and where suitable protection, by stronger-growing trees or shrubs, has been afforded, at the critical time, comparatively little difficulty is experienced in forming good collections of Conifers from Yorkshire or Northumberland in England, to Perthshire and beyond in Scotland.

For lawns and pleasure grounds in proximity to the dwelling house single specimens of the dwarf, bushy, or fastigate Conifers, are preferable, but in their employment and the system of planting adopted there is room for the exercise of much taste. An undue proportion of the Biotas, Thuias, or plants of similar habit produce a most displeasing formality, and attempts to place such Conifers in clumps is usually unsatisfactory to a remarkable degree. Well-developed specimens of the green or golden Arbor-Vitæ, Yews, &c., have a fine appearance when not too closely placed, but it is necessary to have a fair proportion of the more graceful Retinosporas or Cryptomerias, with some deciduous trees and shrubs to avoid a monotony of tint. An admirable example of this mode of planting is seen in Baron Schröder's garden, The Dell, Egham, where the numerous specimen Conifers on the lawn and near the house are backed up with massive beds of Rhododendrons, the fragrant and profuse deciduous Azaleas, Kalmias, and other American shrubs. Beyond these are belts of common Laurels, with miscellaneous strong-growing deciduous trees, shrubs, or Conifers, which, while yielding adequate protection, serve as a kind of frame to a tasteful garden picture. In large gardens the pinetum, when well planted and properly attended, is one of the most important departments, but there are thousands of gardens where such extensive experiments cannot be undertaken, and it is still possible to have within moderate compass a fairly representative collection of the principal coniferous types.

Shallow poor or dry soils are the worst for Conifers generally, and though some can be found to thrive on chalky soils they are not very numerous, especially amongst those of dwarf habit. For moist situations several can be named, but all object to stagnant water in the soil. A well-drained deep rich soil is the best for Conifers of all kinds, and when planting near a house it is advisable to form suitable stations wherever these conditions are not naturally provided. Remove the soil to a moderate depth and of a width proportionate to the extent of the roots, refilling with good turfy loam and leaves from which all the woody portions have been taken. This should be trodden rather firmly after the tree is in position and a liberal supply of water afforded. For some Conifers leaf soil is used very freely, and we have seen serious evils result from this, especially where it contained a quantity of woody substances, as fungoid growth is produced that speedily renders the soil sour and the trees unhealthy.

A brief review of the family in its principal divisions will serve to illustrate the range of form and the methods of classification adopted without going into details respecting the structural peculiarities. First in order, and also by far the most important of the sub-divisions, is the Abietineæ, which comprises all the Firs and Pines that constitute such a prominent feature in many northern landscapes. These two take high rank amongst park and garden trees that attain considerable proportions, and above all are of the greatest economic value. Only six genera are included in this division—namely, *Abies*, *Larix*, *Cedrus*, *Pinus*, *Araucaria*, and *Dammara*, which in their geographical distribution cover the whole of the northern temperate zone extending through the members of the *Pinus* group into tropical regions, while the *Araucarias* and *Dammaras* are the representatives in the southern hemisphere. The principal genera in British gardens are *Abies* and *Pinus*, to which so many species belong that still further sub-division is adopted in each; thus in *Abies* there are three groups, *Piceæ*, comprising the Spruce Firs, of which *Abies excelsa* is the best known example; *Sapinæ*, the Silver Firs, including many of the most ornamental Conifers known, such as *A. cephalonica*, *A. Nordmanniana*, and *A. grandis*; and *Tsugæ*, the Hemlock Firs, such as *A. Albertiana* and *A. Douglasii*.

The Pines are sub-divided in a very simple way, and one which can be easily followed and is fairly constant—i.e., according to the number of leaves in a sheath. The first group, termed *Binä*, is devoted to species having two leaves in each sheath; the



second, Ternæ, to those having three leaves in a sheath; and the third, Quinæ, Pines with five leaves in a sheath. As examples of each the following may be mentioned:—1, *P. austriaca*, *P. Laricio*, and *P. sylvestris*; 2, *P. insignis*, *P. macrocarpa*, and *P. ponderosa*; 3, *P. Cembra*, *P. Lambertiana*, and *P. Strobilus*.

The next large group or tribe is the Taxodiæ which, besides the Taxodiums from which its name is derived, includes the Wellingtonia and Cryptomerias, besides some genera of little importance in British gardens. Sciadopitys, Glyptostrobus, Cunninghamia, and Athrotaxis.

The Cypress tribe, the Cupressinæ, include eight genera, mostly composed of smaller growing species well adapted for lawns. They are as follows:—Cupressus, Retinospora, Biota, Thuia, Thuiopsis, Libocedrus, Fitzroya, and Juniperus, the only ones requiring subdivision being the members of the last-named genus, which are classed as Common Junipers (*Oxycedri*), the Savin Junipers (*Sabinæ*), and the Cypress-like Junipers.

The Yews (*Taxinæ*) comprise *Taxus*, *Cephalotaxis*, *Torreya*, *Ginkgo*, *Saxegothæa*, *Prumnopitys*, and *Podocarpus*, all of some interest, but with the exception of the first-named comparatively rare in cultivation.

As examples of the principal types mentioned, and to show the range of cone variation, we give illustrations of the following species:—*Abies Alcoquiana* (fig. 58, page 301), a beautiful Japanese Spruce Fir, which often exceeds 100 feet in height in its native land. *Abies Veitchi* (fig. 59, page 303), a Silver Fir from Japan, introduced in 1879, an extremely beautiful species, also attaining 100 feet in height, but only represented by moderate sized specimens in this country yet. *Abies firma* (fig. 60, page 305), one of the same group as the last, also from Japan, and like the two preceding introduced to Britain by Messrs. J. Veitch & Sons. It is a common tree in Japan, and forms a handsome specimen.

*Pinus ponderosa* (fig. 61, page 307).—This massive Western American Pine is one of the introductions by Douglas, quite hardy in England, and rather effective in some places. *Sciadopitys verticillata* (page 62, page 308), the Umbrella Pine of Japan, makes but little progress in this country, and though it is said to reach the height of 100 feet, we have seen specimens which in the past ten years do not seem to have grown 6 inches. It is, however, very interesting, and the illustration was prepared from imported cones.

*Cupressus funebris* (fig. 64, page 311), a Chinese species, introduced by Fortune, though known for many years. It is very distinct, but not hardy except in extreme south situations. *Juniperus sphaerica* is also one of Fortune's introductions from China, somewhat intermediate in habit between *J. chinensis* and *J. phænicea*. *Thuiopsis dolabrata* (fig. 65, page 313) is a handsome member of the Cypress tribe, which is now well known in British gardens, and many fine specimens can be seen.

As an illustration of the fine proportions some Conifers assume in England, we are enabled by the courtesy of Messrs. J. Veitch and Sons to give a woodcut from their useful "Manual of the Coniferae," depicting a magnificent specimen of *Thuia gigantea* (*T. Lobbi*) in the gardens at Linton Park, near Maidstone, the residence of F. G. W. Cornwallis, Esq. When measured in 1881 this beautifully proportioned tree was 50 feet high, it is now 65 feet high, 6 feet in girth at 5 feet from the ground, and 19 feet 6 inches in the spread of its branches. Very rarely is such a specimen seen, yet there are many other grand Conifers in Linton Gardens, to which fuller reference will be made another week.

It may be added that the Conference at Chiswick yesterday (Wednesday) comprised the following addresses:—Opening Address on the Special Features of Interest in the Order of Conifers, by Dr. Maxwell T. Masters, F.R.S., Chairman; "Japanese, Chinese, and Californian Conifers," by Mr. H. J. Veitch, F.L.S.; "Conifers as Specimen Trees and for Landscape Gardening," by Mr. Geo. Nicholson, A.L.S.; "Conifers for Timber and in Plantations," by Mr. A. D. Webster; "The Decorative

Character of Conifers," by Mr. Edmund J. Baillie, F.L.S.; "Conifers at Bickton, Devon," by the Hon. Mark Rolle; "Conifers at Dropmore," by Mr. Chas. Herin. To-day (Thursday) it will be resumed at 2 P.M., when the undermentioned papers will be read:—Opening Address, by Prof. Bayley Balfour, F.R.S., Chairman; "The Value in the British Islands of Introduced Conifers," by Mr. Malcolm Dunn, F.R.H.S.; "The Quality of Coniferous Timber as Affected by Sylvicultural Treatment," by Dr. Wm. Somerville; "The Timber of Exotic Conifers Grown in Scotland: Its Uses and Comparative Value," by Mr. D. F. Mackenzie; "Fungoid and other Diseases of Conifers," by Prof. Marshall Ward, M.A., F.L.S.; "Insects Injurious to Conifers," by Mr. W. F. H. Blandford, M.A.

## CINERARIAS DURING AUTUMN AND WINTER.

THE whole stock of these plants should now receive a thorough overhauling, ready to be placed in their winter quarters, and except in severe winters like the last, they may be successfully cultivated in cold pits up to the time when the flowers begin to open. Only once during the last eight years have we lost more than 1 or 2 per cent. through frost and damp among plants wintered in cold pits, and even during the protracted winter of 1890-91 very few of our plants were killed, although the foliage was disfigured. I mention this to show that numbers of cold pits which during the autumn months are in many gardens empty may be turned to good account, and that, moreover, such a position is much better for the plants than those they often occupy in vineries and other structures where they are a long way from the glass and crowded. It is generally an easy matter to find room for large numbers of Cinerarias during the summer months when they are in a small state; but when the dewy nights of autumn come, as well as many dull moist days, these plants grow with wonderful rapidity under such conditions before very severe frosts set in, and unless cold pits are utilised during the next three months, not nearly so large a quantity can be grown as would prove acceptable during the spring months.

Any strong plants that are now in the right condition at the roots—that is, with a good number of them showing round the outside of the ball without being matted together, should be shifted into their largest pots, the size of which must, of course, be regulated by the dimensions of those they now occupy, but pots two sizes large will, in the majority of cases, suffice. Where any plants are extra strong they will be all the better for being placed in pots one size larger than those the less vigorous ones receive. A compost of turfy loam two parts, leaf soil one part, and spent Mushroom dung one part, with sharp sand, wood ashes, and a 5-inch potful of scot to a barrowful of the other ingredients added, is one in which the plants will make satisfactory progress. As the potting proceeds keep a sharp look out for traces of mildew, which can easily be stamped out now by applying a little sulphur to the under side of the leaves. Those plants that are repotted should be placed in a pit by themselves, so that they may be kept without bottom air for a time, but at this time of year I find the repotted plants do better with a little top ventilation left on constantly, except frosty nights, than when they are quite closed in the afternoon, as in the summer time.

A good hard base formed of coal ashes is the best material I know of to stand the pots upon. A very important point is to give the plants plenty of room when arranged. The leaves of adjoining plants should in no case be nearer to each other at the points than 3 or 4 inches; this will allow plenty of light and air to play around them, and so induce a sturdy growth with leaves thick and leathery. Such plants can withstand the effects of a low temperature much better than those that have been drawn up with thin leaves and attenuated stems, by reason of their having been placed too close together, and, moreover, they are far less liable to injury from damp when plenty of room is given; indeed overcrowding the plants is one of the principal causes, the condensed moisture being so long in escaping.

Having potted and arranged the strongest plants those remaining should also be re-arranged after raking the ashes, and if they are in the least green adding a coating of fresh ones to have all sweet and clean, and as a preventive against the attacks of slugs dust the surface of the ashes with soot. Also take special care that the plants have plenty of room. If gardeners would only keep this point firmly fixed in their minds and act up to it, dwarf sturdy Cinerarias with thick leathery leaves would be more plentiful, and drawn weakly ones proportionately less. If it is found that more



plants have been grown than can be accommodated in this way it is far better to give all the best plants abundance of room, and then place those remaining closer together for supplying cut flowers, than for want of space to grow the whole only moderately well; and where they are not valued in a cut state, rather than overcrowd it is sound economy to give some of the plants to a neighbour who may be less fortunately placed, or even to consign them to the rubbish heap. The tops of the plants should be about 6 inches from the glass, and as soon as they have grown to within a couple of inches of it they should be lowered by removing a few of the ashes.

Green fly is not as a rule troublesome after this date when Cinerarias are kept in cold pits, but if only a few of those insects are found it is a good plan to fumigate them. But little trouble will be given by insects of any kind till the plants are housed. All plants whose roots have freely permeated the soil in the pots should receive weak liquid manure at each watering, occasionally using soot water instead. The state of dryness at the root they are allowed to reach before water is given must be determined in a great measure by the weather. When dull foggy weather prevails during the short days of winter the plants will sometimes not require watering or even looking over more than once a week, but whenever such weather is followed by a little sunshine always make a point of thoroughly examining the plants and watering those that require it. Many plants are in some hands allowed to suffer greatly during changes of weather, because the method and time of watering are not changed.

Before concluding I must say a word about the important matter of covering to afford protection from frost. Do not be in a hurry to begin this. If the pits are well glazed and in good repair a few degrees of frost in the open air will not injure plants in closed pits, and the more light the plants receive the better; but rather than run the risk of allowing them to be injured it is better to cover to be on the safe side when any doubt exists as to the state of the weather. After one sharp frost in the depth of winter additional covering material should be used the following night, as if frosty weather continues it generally gets sharper each succeeding night. To keep Cinerarias safe from frost during very severe weather, a double thickness of mats, with wooden shutters placed on the top, and the sides of the pit encased in bracken, straw, or hay 2 feet in thickness, and a thickness of 1 foot placed on the shutters, is necessary. And on two or three occasions we have wintered hundreds of Cinerarias, and brought them safely through, with this treatment, after having from 20° to 29° of frost at various times. The really dangerous time is when (as at times last winter) we get the days almost as sharp as the nights, so that it is not safe to uncover, then the plants suffer greatly from want of light and through damp. Happily, however, such winters do not often occur.—D. W. C.

## SIXTY YEARS OF HORTICULTURAL PROGRESS.

(1760—1820).

(Continued from page 153.)

WE cannot expect that many of those persons who, in this unreflective age, hurry along Loddiges Road, Hackney, are likely to recall the fact, even if they ever heard it, that this name survives as a memorial of one of our most celebrated English nurseries, the fame of which travelled over Europe. It must, indeed, be regarded as an establishment which notably helped to advance horticulture at a time of some prostration. Singular have been the changes that have passed over this once suburban village, which we first read about as a favourite place of residence for nobles and wealthy citizens, when Cambridge Heath was a veritable heath, and near it, a broad mere or lake, of which we have a reminder in the modern Mare Street. During Georgian times old Hackney was famous for its boarding schools, its nurseries, and market gardens; but the nursery of Messrs. Loddiges, though limited in space, was really a botanic garden. Evidently, even then, the village was not ill adapted for gardening pursuits, for several amateurs made their abode here, and had flower plots, in which they made a great display of Roses, Tulips, Carnations, &c.

Early in the eighteenth century John Busch, a nurseryman from Holland, took possession of the estate oddly called Barbuir Berns at Hackney, and he was so far successful that eventually a report about him travelled to Russia, and the Empress Catherine II., who was seeking a good gardener, sent him an invitation, which he accepted, and made over the Hackney Nursery to the Messrs. Loddiges in 1771. Some years after the firm bought additional land, but the whole extent was only about 15 acres, though the arrangement followed gave the idea of a larger space. Visitors from all parts came to Loddiges' garden as one of the sights of

London. These gentlemen were at one time the leading consignees of Cape and South American plants, and they sold Cacti, Orchids, Heaths, and Ferns. At one end of the ground the houses were arranged on a systematic plan which this firm seems to have been the first to devise. The visitor entered by the stoves, then went on to the Palm house, next to the Orchid and Camellia houses, and a range of conservatories. Within the space enclosed by these buildings were pits and frames. Beyond was the arboretum formed as a winding walk, one side having named trees and varieties of different sizes, on the other side were planted Roses and herbaceous plants. From this the visitor passed to the American ground, a circular plot, containing a complete collection of all species obtainable. One of the things for which Messrs. Loddiges were celebrated was their skill in packing plants to travel long distances by sea, which was then a novelty. They put these in sphagnum trodden or pressed down, and the plants retained their vitality till they reached the Antipodes. "Loddiges' Botanical Cabinet" was a publication that was issued by this firm in its later history, and which extended to thirty-four volumes. Loddiges'

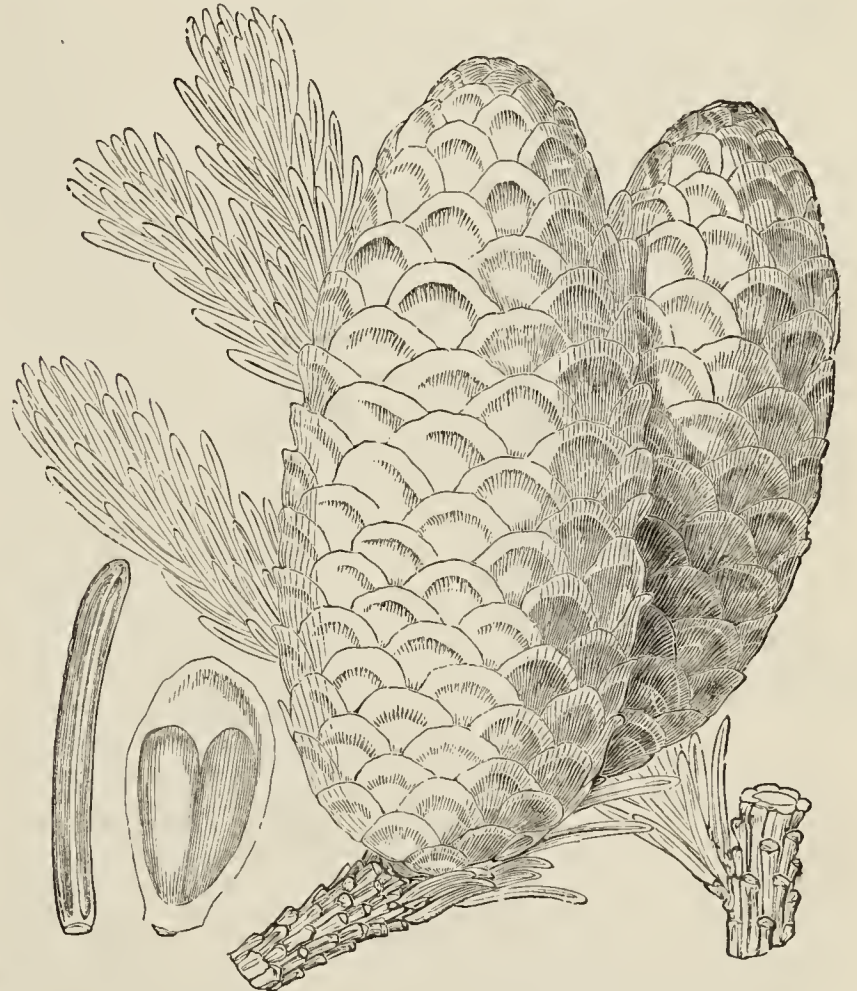


FIG. 58.—ABIES ALCOQUIANA.

Nursery disappeared about forty years ago, having served its purpose; it might be said to have a successor in the well-known Victoria and Paradise Nurseries of Holloway, where, however, culture is chiefly carried on under glass.

It was in or about the year 1780 that Dr. W. Pitcairn started a botanic garden near Cross Street, Islington, in which, though its extent was limited (somewhere about four acres), he had a great number of exotics and some curious varieties. At all times he was willing to show his specimens, or give information to gardeners and others. The doctor was a native of Dysart, in Scotland, for ten years President of the College of Physicians, and founder of the Radcliffe Library. Much service was also rendered to gardeners by his friend and senior Dr. Lettsom, a Cheshire man, a man of wealth, and one of the few men in his day who were inclined to aid botanical science by money from their own purses. By correspondence he obtained varied information about the natural habits of trees and plants brought over to England as varieties. On Grove Hill, Camberwell, he built a villa, to which he attached an arboretum and an extensive flower garden. So charming was the spot then that two poets, Scott and Maurice, wrote verses descriptive of the doctor's grounds, and the scenery to be viewed from the hill. Dr. Lettsom arranged the plants in his garden according to the countries from which they came, and they were labelled with the Linnaean names. He also had a museum, which contained, amongst other objects, a collection of dried plants, barks, and seeds. He was the author of many books and pamphlets, one of the latter was a rather amusing dissertation on Tea. When his friend Fothergill died he published a list of the stove and greenhouse plants that



were growing in his Upton grounds. This Fothergill was another M.D. partial to flowers, and who sent to the Alpine regions at his own expense a collector, who brought back many new species, duly recorded in the *Hortus Kewensis*. His account of the "Culture and Use of Mangold Wurzel, or Root of Scarcity," appeared in 1787. This was largely circulated, as were his hints on forming bee societies, dated 1796.

The illustrious Miller, botanist and gardener, died in 1771, after many years' service at the Apothecaries' Garden, Chelsea. It is supposed that in the course of his life he witnessed the introduction to Britain of upwards of 4000 new plants, a large number of which passed under his hands in the Chelsea establishment. His successor in office was Forsyth, who had been his pupil; he, too, was a Scotchman, and left the head gardenership at Sion House to preside at the Chelsea garden; subsequently he resigned his post there to enter the Royal establishment at Kensington. He wrote treatises on the management of fruit trees, recommending a new mode of pruning, and on the preservation of Apples and Pears. For about twenty years he paid particular attention to any instances coming under his notice of forest or fruit trees that were diseased or injured, specially the latter; and he professed to have discovered an unfailing remedy, in the form of a plaster or application. In 1791 Forsyth published an account of his presumed discovery, and had there been anything both valuable and original in it he might have deserved the thanks of fruit growers, and merited also the reward of £1500, conferred upon him by Government. His compound was a mixture of lime rubbish or powdered chalk, wood ashes, and sand, all sifted fine, then worked together with a certain proportion of fresh cowdung. This application, according to Forsyth, not only healed external injuries or disease (I presume he would have recommended it for canker); but if inserted within hollows in trees it produced a growth of new wood which combined with the old, and the trees became as vigorous as ever. Such extraordinary statements somehow obtained endorsement from several botanists or naturalists of that time who ought to have known better, and probably a still larger grant would have been made him had not Knight, the first President of the Society, which afterwards became the Royal Horticultural Society, taken up the matter. Of course the controversy became a rather bitter one, but Knight made it very plain that others before Forsyth had advised a similar application, and that it would not effect what he pretended. A son of this gardener—who was not, in the main, an ignorant man—became a prominent London seedsman.

Great attention was given in the reign of George III. to the culture of the Pine Apple, English-grown Pines being much in request. A proof of this is in the various treatises upon this fruit, and also upon the Melon, such as that by Giles, foreman in Russell's nursery at Lewisham, published in 1767; and that by Taylor, of Devizes, in 1769. Of more general value was a work by Speechly, gardener to the Duke of Portland, entitled "A Treatise on the Culture of the Pine Apple and the Management of the Hothouse." This book contained an important addendum—one of the earliest attempts to describe the insects of hothouses, and suggestions for checking their increase.—ENTOMOLOGIST.

### GARDENING IN CALIFORNIA.

THE following notes from an old master of mine, a first-class English gardener, who has been in Napa, Co. California, for the past three years, may possibly interest some of your readers if you can afford space for it at this season. "The Phylloxera is playing great havoc in the vineyards; we shall lose about an acre this year. Altogether in this county about 6000 acres have been destroyed up to date. The resistant stock appears to be the only remedy, grafted a foot above ground. By this means it will take seven years to get a vineyard re-established. I may say the small vineyardists (below 50 acres) are in a poor way just now. Wine is very cheap, from 5d. per gallon. I believe in the Raisin counties things are better, but the price of labour kills all produce here. Peaches, Apricots, Apples, Plums, &c., are very plentiful and cheap; they do not average 1d. per pound in bulk. We have over an acre of mixed trees. The thinning of the fruit cost £2, and I daresay if I tried I could make very little more of the entire crop, although close to the town.

The greater part of our Plums and Prunes were cooked on the trees the 20th of June and following days. The temperature was 115° in the shade, the hottest on record; for over a week it was over 100° daily. We generally have it about 90°, which is comfortable. My opinion of fruit growing here is unless a man has unlimited capital, so that he can "can" his fruit and export it, he is better off growing Turnips in the old country. I had a grand show of Roses this season; our Rose season is in April. I cut some fine Maréchal Niels outdoors in March. From June to October the Roses are

little good here; they develop too fast, and disappear faster with the hot sun. Pelargoniums make fine bedding plants here on a north border. We have to pot them for winter; they will not stand the wet in winter, as when it does rain here it comes down mightily. We are well advanced in the dry season now; all herbage is dried up unless irrigated. We expect rain in October or November. It is a treat to have a foggy morning. In the hot weather I thought the end of the world had come; one could not touch iron without gloves on. I forgot to say Grapes always colour well here owing to having plenty of hot air by day and cool at nights, generally between 50° and 60°. I think Muscat of Alexandria is better for being a little higher at nights, as they do not finish so well as the Hamburgs with us."

From the foregoing notes it would appear that any gardener with a small amount of capital intending to embark in fruit culture would do better to invest it at home than in America. There if he has to employ labour he will have to pay 8s. 4d. per day with board, &c., while unless he can export his fruit he will not make sufficient of it to pay the rent, much less provide himself with the necessaries of life. Good land at a fair rent in any of the British Isles should, I think, prove a far more profitable investment, particularly if a man is possessed with plenty of perseverance and a firm determination to succeed, qualifications which most British gardeners are well stocked with.—HANDY ANDY.

[Is it not a wonder that the "Old Master," who fares so ill, does not turn into a "man" and earn 50s. a week with board, &c. ?]

### PEACHES ON OPEN WALLS.

THIS season has again proved the usefulness of Peaches on the open wall, but the trees have had the most severe test of hardiness through the frost that has been experienced for eleven years. Several trees have died and dying main branches, and a large number of the ends of the shoots died back last spring. It was not through immaturity of wood, for we have had full crops set, and the trees bloomed very freely, but I should think the sap was frozen after it had begun flowing freely, and expanding caused a rupture in the organs—at any rate, many of the branches have died in the old wood.

Then, again, the stocks of several trees do not grow freely, consequently the trees do not make wood large enough to produce useful fruit, and they have a stunted looking appearance.

Inexperienced persons purchasing fruit trees should be very particular in selecting clean grown stocks free from knots. Knotty stocks do not continue growth many years to produce fruitful wood of any use. Nurserymen should not send them out. It is most discouraging after years of work and everything done that can be to be obliged to throw out trees from prominent places. It is a waste of time to plant stocks covered thickly with knots.

I would here direct special attention to Royal George Peach. It is, perhaps, the very best Peach to grow in Northumberland against an unheated wall. We have several trees, some of them in splendid condition, which have produced a crop of fruit during many years without a failure, fine coloured richly flavoured useful size fruit. I have gathered the last fruit to-day (October 3rd) from the open wall of that variety, and the flavour is still good. Dr. Hogg and Dymond are also good about the same time. Noblesse has done well the last two years, the largest fruit has been 9 ozs. Sea Eagle and Prince of Wales are both grand and very free fruiters, come in late, and are useful for tarts. Bellegarde and Stirling Castle are not good here.—GEORGE HARRIS, *The Castle Gardens, Alnwick*.

### AURICULAS IN SCOTLAND.

AURICULA growers in Scotland this year finished repotting a month earlier than usual. My own collection was finished before the end of June, although I retain my old opinion that July and August are the best months in which to repot. This year I have discarded the glazed pots, as I have found the plants do not like so much continuous moisture as they hold about them. Glazed pots may save some trouble in watering, but I would rather give the additional work for the sake of the plants. I find 4-inch pots the best size for plants generally, but the young plants grow well in 3-inch size. No advantage is gained by much pot room. The plants are at present looking remarkably well, the foliage being clean, fresh, and strong. The white foliage is particularly beautiful, and the glossy green of some varieties is pleasant to look at.

One of my Auricula-growing friends writes that he has been a good deal troubled of late with green fly, another is afflicted with



woolly aphis, which, I am glad to say, is not much known in Scotland. This year I have had scarcely any green fly; but when I do have a plant infested with insects I hold it below a gentle run from a water-tap, turning up the backs of the leaves, and holding the pot so that the soil is not disturbed. This plan I consider better than dipping the plant in Fir-tree oil or other substances. I have never cleaned a plant thickly covered with green fly in any other way, and always find it effective. If there are only a few on the leaves the finger and thumb are the best cleansers.

Offsets of all sizes are numerous this season, and, as I mentioned before in your pages, I have increased my stock considerably by beheading, wherever it suited, some of the finest and newest varieties. From last year's stumps I potted eight of Heroine, five of John Simonite, four of Black Bess, five of George Rudd, and several others similarly. In beheading for increase, care must be taken that there is an eye breaking below the cut, and that there are fibres above the cut for the growth of the old plant. Dress the top of the plant and the stump with charcoal. There has been a considerable demand by Scottish growers for some of the new English varieties which could not be met. Mabel and Marmion were two inquired for, but could not be supplied. I have just removed the plants from the frames to the Auricula house, and I am well satisfied with their fine appearance.—JOHN MORRIS, Dundee.

### VEGETABLES AT HIGHCLERE.

READERS of the Journal will be aware that vegetables from the Highclere Castle Gardens, near Newbury, the Earl of Carnarvon's Hampshire seat, were placed first among no less than seventeen competitors at the recent International Exhibition, held in the Waverley Market Hall, Edinburgh, a fact which speaks more than anything else in favour of their excellence. The class in this instance was for twelve varieties, each unlimited in numbers. After this honour achieved by Mr. Pope, a few notes on how the vegetables look at home and the manner in which they are grown will not only be interesting but useful to many Journal readers. At Highclere exhibition only is not by any means the aim in cultivating vegetables up to so high a standard, the home consumption is the first consideration—as it should be with all gardeners—and as the right methods are practised the crops obtained admit not only of a plentiful supply both for exhibition collections and home requirements. Many persons may say where show vegetables are cultivated the crop generally is sacrificed for the few required for the exhibition table; but there never was a greater mistake, because a high state of cultivation must be adopted to obtain success, consequently a greater produce is the result for all purposes. The best varieties must be employed in all cases; improvements on ordinary types are necessary nowadays to keep pace with the times.

The kitchen garden is about 6 acres in extent, having a gentle slope to the west, consequently well sheltered from the east. The walls, which are not high, were built in the year 1770, as shown by a tablet over one of the entrances, therefore the soil has had good opportunities to have been brought into a good state of cultivation. The average depth is 18 inches of what may best be termed stiff loam; the subsoil is clay. On the whole it is a garden which can be depended upon in a dry season, as it does not, to use a Hampshire phrase, "give out" readily. Decomposed leaves and light stable manure are the best materials for enriching soil of this character, heavy cowdung would be of no use. Trenching of the bastard order is much practised, the subsoil being broken up but not brought near to the surface.

Mr. Pope considers that Potatoes constitute the leading dish in a collection of vegetables, although many collections are staged without them. Satisfaction is regarded as the best variety in existence for exhibition, though Sutton's Seedling for the early shows, Windsor Castle, Midseason, Chancellor, and Abundance for the autumn meetings are good. These have a taking appearance, being white and clear in the skin, have shallow eyes, but they are also of capital quality, not being prized for outward appearance alone. The best tubers for planting are those which are whole and of medium size; they are but little sprouted at planting time, which is early in March, allowing 2 feet 6 inches between the rows and the plants. Where the tubers are not sprouted enough at planting to determine which will produce the best growth, they are thinned when a few inches out of the ground. Crowding the haulm is a practice not encouraged. The soil between the rows is frequently stirred and well earthed when the growth is high enough. Preparing the tubers for exhibition needs some care, but is a simple matter. Directly they are dug they are placed in water. It is not a good plan to allow them to become dry before being washed; the skin is liable to be discoloured by exposure. Clear water and a sponge is all that is necessary to cleanse the tubers,

which are at once wrapped in separate pieces of soft paper, thus preserving a clean skin, which is most important.

Onions form a valuable dish in a collection, no matter how small. Apart from their usefulness, they have, when of good quality, a "taking" appearance. For early use Anglo-Spanish is superior. Rousham Park and Lord Keeper for autumn shows are preferred. By the end of January the seed is sown in boxes, which are placed in gentle heat, the plants pricked off the moment they are fit to handle, say an inch high, and again when large enough to keep them "going," and are finally planted out at about 9 inches high after being thoroughly hardened off by growing as near to the glass as possible, with abundance of air admitted when the weather is suitable. The ground on which the Onions are to be grown needs some preparation to give the best results. Early in autumn it is bastard trenched, giving a good dressing of manure, placing

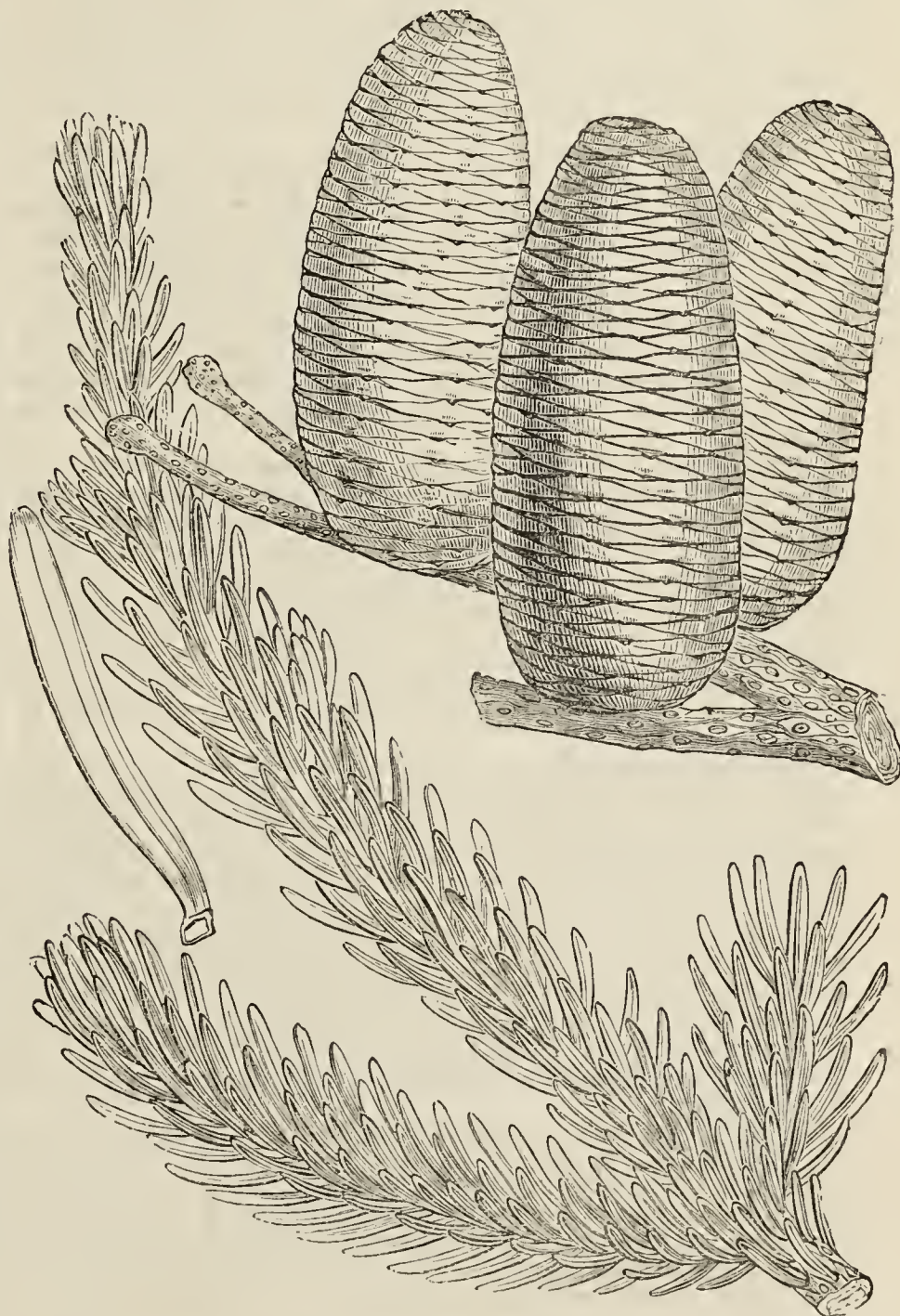


FIG. 59.—ABIES VEITCHII.

this on the broken-up trench at the bottom. Any time in October a thin sprinkling of Thomson's Vine manure is forked in, which is found to yield good results.

Peas are indispensable at all seasons except the late autumn shows. Good Peas carry much weight with practical adjudicators, not only because they are regarded as the most choice vegetable, but owing to the difficulty experienced at some seasons of the year in obtaining them. The Duchess is regarded by Mr. Pope as the best variety in commerce. Duke of Albany is good, but it must give way to the Duchess. The soil should be well worked and manured in the autumn; the very much practised plan of digging out a trench as for Celery, laying a thick coat of manure at the bottom, covering with soil, then sowing the Peas, is not advocated nor practised at Highclere. Mr. Pope thinks the roots go quickly to the bottom of the trench, and do not spread beyond that line, the consequence is dry roots, and, of course, mildew follows. By drawing wide drills at sowing time the firm ground below forces the roots outwards in search of food. A special point is made in



sowing thinly and allowing abundance of space between the rows, 10 feet at least, which ought to always stand north and south. No pinching of the haulm or thinning the pods to obtain extra size is practised. The soil is kept well stirred, especially during dry weather. For the earliest shows the seed is sown in small pots in March in a cool house, afterwards planting out when the seedlings are well hardened. The first sowing out of doors is made in February according to the state of the soil, if wet it is deferred awhile.

Scarlet Runners are a strong dish, and appear to have taken the place of Dwarf Kidney Beans for all but July shows, and when we consider the excellent Beans obtained the first week in August there is no wonder that they are preferred to the other. The soil is treated as for Peas, the rows not less than 12 feet apart. The first sowing is made in pots the first week in April at the same time as the outdoor sowing is made. The plants are grown 3 feet high in 32-sized pots before they are planted. Double rows are grown, as they are less liable to be blown down by strong sou'-westers. Ne Plus Ultra and Sutton's A1 are the most favoured varieties, and richly do they deserve their preference. The rows were 12 feet high, and clothed with Beans from bottom to top—truly a grand sight.

Turnips are a favourite dish, and rightly so, particularly during a spell of dry weather when this vegetable is scarce. Snowball is the only sort required, as it possesses all the qualities of a good Turnip for any season. To have the roots in proper condition towards the end of July the first sowing should be made at the end of May, and every three weeks afterwards in small patches in rows between the Scarlet Runners or behind a north wall, where they will derive much benefit from the shade accorded. Common salt sown over the ground when the seed is put in the drills is good for Turnips; in fact, for all root crops as a preventive of grub or wireworm.

Carrots form one of the leading vegetables in the root section, Early Gem and Model for the early shows, and New Intermediate for midseason and late ones. Veitch's form is regarded as the best, being so good in colour. The soil must be rich to grow good Carrots, but fresh manure ought not to be employed. The first sowing is made in pits in sandy soil the middle of January, the same time in February for the main crops outside. The drills are 18 inches apart, which allows free development for the leaves. The plants are thinned early, which is an important point to observe. A mixture of salt, soot, and soil is sown after the seed in the drills.

Cauliflowers carry much weight when presented in good condition. Magnum Bonum for early, Veitch's Autumn Giant and Sutton's Autumn Mammoth for later use, are preferred. The last named is a better colour than the ordinary autumn Cauliflower which has stood the test so long. Sow the first-named in heat at the end of January and the others early in March outside. These will keep up a succession for autumn use. The two last named should be sown out of doors from the 12th to the 20th of August to provide heads early in the following August. These must be wintered in pits. Cauliflowers cannot have too rich soil; if they do not make leaves freely they cannot produce perfect heads. Good soakings of liquid manure early are of great advantage to a free growth.

Tomatoes are now considered indispensable as a dish in even a small collection. Perfection is the favourite variety. The seed is sown early in January. One great mistake made in the growth of Tomatoes is the employment of loose soil in the pots, which induces a too free growth. Loam is the principal ingredient in a simple compost; it is rammed very firmly into the pots. The plants are liberally treated after the fruit is set. Syringing is not much practised.

Cucumbers during September are appreciated more than they are in the month preceding. Tender and True, Model, and Sutton's A1 are good; the latter is good in colour, which is a point to observe.

Celery in September and onwards is a strong dish. Wright's Giant White is preferred for early shows, not only because it is more seasonable, but by reason of its blanching quicker than the red or pink strain. Standard Bearer and Wright's Grove Pink are the best coloured kinds. Sow at middle and end of February in heat, prick out into boxes directly the plants can be handled, and re-box thinly so as to grow sturdily until 9 inches high, when they are planted in the trenches with a good ball of soil attached. The growth should be made without any check whatever to avoid its running to seed or hollowness of the leaves. The trenches are deeply dug out, the subsoil broken up, on which is placed a layer of manure, covering this with some soil from the surface, in which the plants are put out 1 foot apart. During dry weather water ought to be freely given, once a week is not too often. Stimulants should be varied to be of service in creating sticks thoroughly blanched 2 feet long. Earthing is not done in the ordinary way

with soil; brown paper is employed wrapped firmly round the plants, which renders the produce clean and free from slug depredations. Commence to blanch about a month before the Celery is required.

Parsnips in October and November are a strong dish in a large collection. Student and Hollow Crown are varieties to be depended upon. The best Parsnips are grown in prepared holes, made fully 2 feet deep with an iron bar, filling up with sandy soil, sowing two or three seeds in each at the end of January or early in February if the soil is dry.

Brussels Sprouts should be ready in October for use, taking then the place of green vegetables, obtainable only during the early season. Exhibition is a reliable sort, so is the Wroxton and Aigburth. Extra large sprouts are not encouraged; those firm and compact are favoured. Rich soil will produce them loose and soft to the feel. Firm ground is preferred to that which is loose. The first sowing is made early in March in heat, the next outside directly afterwards; those in heat are pricked off into boxes, hardened, and planted 2 feet 6 inches apart.

Globe Artichokes should be chosen for their close compact heads; they ought to slightly incurve. Good soil is needed. A fresh plantation from offsets is best for late produce.

Leeks are much more sought after now for exhibition than formerly was the case, when the blanched part was but a few inches long; but now it is nothing out of the common to see Leeks with 1 foot of stem thoroughly blanched. Lyon is the best. The end of January is chosen for sowing the seed in heat, pricking off the plants directly they are large enough. Plant out like Celery, and feed well: earth-up with soil about twice. Beet is a telling dish in a large collection. Pragnell's Exhibition and Cheltenham Green-top are thought the most highly of. The poorest soil is chosen to sow the seed in, about the middle of May.

Dwarf Kidney Beans for the July shows are considered choice. Canadian Wonder is the only variety grown at Highclere. Sow at the end of March in pits, and grow as near to the glass as possible. They are not kept too hot or dry at any time.

Vegetable Marrows are but a weak dish in September, but for July shows they are worth a place. The early part of April is considered a good time to sow the seed, Long White being the best sort. Handlights are used to protect the plants at first, when they are allowed to ramble at will.—A RAMBLER.

## THE EDINBURGH SHOW, 1891.

### STEALING FRUIT.

As an exhibitor at the late Edinburgh Show, and as a member of the Royal Caledonian Horticultural Society, I beg to thank you for opening the columns of your Journal to discussion of the above subject.

During the last quarter of a century I have been a frequent exhibitor at international and other shows held at Newcastle-on-Tyne, Leeds, Manchester, York, London, Dundee, Glasgow, and Edinburgh, and in all my experience I have never beheld such disgraceful proceedings as can be witnessed at the close of each Edinburgh Show. For years pilfering has been going on, and gradually getting from bad to worse. In the past the Council of the Society have made light of complaints and have merely winked at the depredation of the light-fingered gentry until this system of plundering has become quite a joke to them. At a former Edinburgh exhibition I had a stand of Grapes and a Pine Apple stolen during the second afternoon. The case was placed in the hands of the police, and the result was that four days after the exhibition I received a note from the Assistant Secretary saying that the stolen fruit had been returned to his office; but the note was accompanied with no word of apology or expression of regret at the incident.

In regard to the closing scene of the late Show, accurately described by "A Visitor" and other correspondents, I wish to say that though supported by four assistants who was each in his place the instant we were allowed to lift, I lost severely in the single dish classes. Unless the Council guarantee that the exhibits in the future shall be better taken care of some exhibitors (myself included) will consider it their duty not to expose their employer's goods at an Edinburgh Show.—J. MCINDOE.

I CAN testify that this is no new complaint at Edinburgh, having 1st a fine lot of fruit there of various kinds some years since. This was the more provoking as I had to send the greater part of it as presents to persons in the neighbourhood who were friends of my employers. When I reached the Show, however, to clear it away none of it was to be found. This was by no means satisfactory, either to the owners or myself, and I have not been to any show there since. I was slightly consoled on my journey home by a fellow passenger, who assured me it was well known



that "they keep the Sabbath, and everything else they can lay their hands on."

Seriously, this state of affairs is highly discreditable to a "Royal" society, and does not say much for the good management of the various officials. I can go to any of our large shows in this country and seldom lose a single fruit; the same thing ought to be as easily accomplished in Scotland. It is merely a question of administration, and the managing Committee should make a decided reform in the matter at the next show.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

### THE USE AND ABUSE OF WATER.

IN the Journal for September 17th you publish an extract from a paper that was read at the monthly meeting of the Preston and Fulwood Horticultural Society on the above named subject. I think Mr. Waters has a very poor opinion of the young gardeners of the present day. No gardener will allow Azaleas, Heaths, or any other plants (when in an active state) to get so dry that the pots will ring like bells. One experience of the above would be sufficient for most plants. I think they will often be dry if we have to water them with the syringe, using our own judgment. The idea of syringing Heaths is new. They require plenty of air and a rather dry atmosphere, keeping the roots moist in summer and somewhat dry in winter, but no syringing; mildew will spread fast enough without young gardeners helping it in that way.

I think plants are in more danger from the abuse of water than fruits. Plants must be examined every day. Some plants will need it once a day, some twice, others not for a week, then we have to use our judgment. If a fruit house has four or five good waterings in the year it will not suffer. I think Peaches require more water before the stoning period than Mr. Waters advocates. Ours have more, but no syringing when the fruit is ripening. Does the rain improve outdoor fruit when it is ripening? From a Grosse Mignonne tree in our early Peach house we gathered several fruits which weighed 9 and 10 ozs. each. This tells if the treatment was right or wrong. I think one bucket of water is quite sufficient for damping the path of a house at night, and it does good, as it causes a moist atmosphere, which checks red spider and thrips. When the fruit begins to ripen discontinue damping. As for Melons, anyone can grow them if he has plenty of good manure, but sun heat is needed to ripen them. On the whole, I do not think that the young gardeners of the present day will profit much if they try to work on the lines laid down by Mr. A. Waters.—**YORKSHIRE BITE.**

[Mr. Waters has been excellently trained, and is an excellent gardener.]

### NEW VIOLAS.

I RECENTLY received from Mr. George Steel of Heatherslaw, a correspondent of the Journal, blooms of quite a new type of Viola, which I think will become popular, a variety named "Violetta," raised by Dr. Stuart of Chirnside. It has small blooms of pretty form, and of good substance, and the plant (of which one was sent to me) of dwarf elcse habit. It is of a clear white colour, with a yellow blotch in the centre, and is very fragrant. The blooms are small compared with almost all our Violas, and it is a variety with which I am much pleased.

Mr. Steel has been raising seedlings from Violetta, and sent also blooms of four seedlings partaking of the Violetta character, viz., Maggie Steel, a primrose, shaded white, with yellow centre; Flossie Brutton, pure white; Mrs. George Finlay, pale yellow, shaded with white, and distinct; and Miss Allandale, soft shaded lilac, with bright yellow eye, and of pretty form also. These seedlings will have to be further proved, and are all of the Violetta type; but Violetta will be on sale this autumn, and in it we are preserving the pure Viola character, and it is a charming variety.

So many new Violas come under my notice, and I regret to find that many of the newer varieties have so little of the true Viola character, of which Ardwell Gem, Bullion, Mrs. Gray, The Mearns, and True Blue are types, and that very much of the Pansy breed is being infused, which leads to inferior bedding qualities in being later to bloom in the spring, not so floriferous, or so lasting in the summer and autumn. Many inquiries are made as to what constitutes a Viola and a Pansy. Botanically, both are Violas; but when cornuta and Blue Bell were introduced, many years since, the former by Mr. John Wills when at Burnley in Lancashire, and the latter by my brother Richard, the term Viola was decided upon as distinguishing a type distinct from the ordinary Pansy. Then came other kinds, amongst them Mrs. Gray, an excellent white, sent out from Holloway some eight years or so since. I am anxious to see the Viola type preserved as far as possible, but we are drifting too much into kinds which have a great preponderance of the Pansy character both in size and form of flower and growth.

Mr. Cuthbertson, of the firm of Messrs. Dobbie & Co. of Rothesay, recently expressed a most favourable opinion of my seedling new variety "Bridesmaid." Here, in the immediate neighbourhood of Birmingham, we do not always get blooms so clear and large as can be obtained further away in the country. A box of blooms of this variety was sent

to me a few days ago by a friend near Warwick, who has grown it, and I was surprised to find it to be a much finer variety than I had anticipated; a beautiful pale cream colour, entirely free from any ray or blotch, and of good habit, and such an excellent bedder and distinct.

Messrs. Dobbie & Co. also sent me a few days since blooms of a very beautiful new Viola, "Countess of Elgin," the upper and side petals light grey, clouded with light purple, the lower petals rich maroon purple, with a light blotch at the base, perfect form and of good substance, and distinct; also "Ravenswood," a rich crimson-tinted purple self, of fine form and substance. Blooms of two other new varieties were also sent—"Mary Gray," a distinctly striped variety, white striped, and clouded with light blue purple, with a large rayed centre of a deeper shade of colour, a quite distinct large-flowered variety; and "Sweet Auburn," white, the top petals with a band of

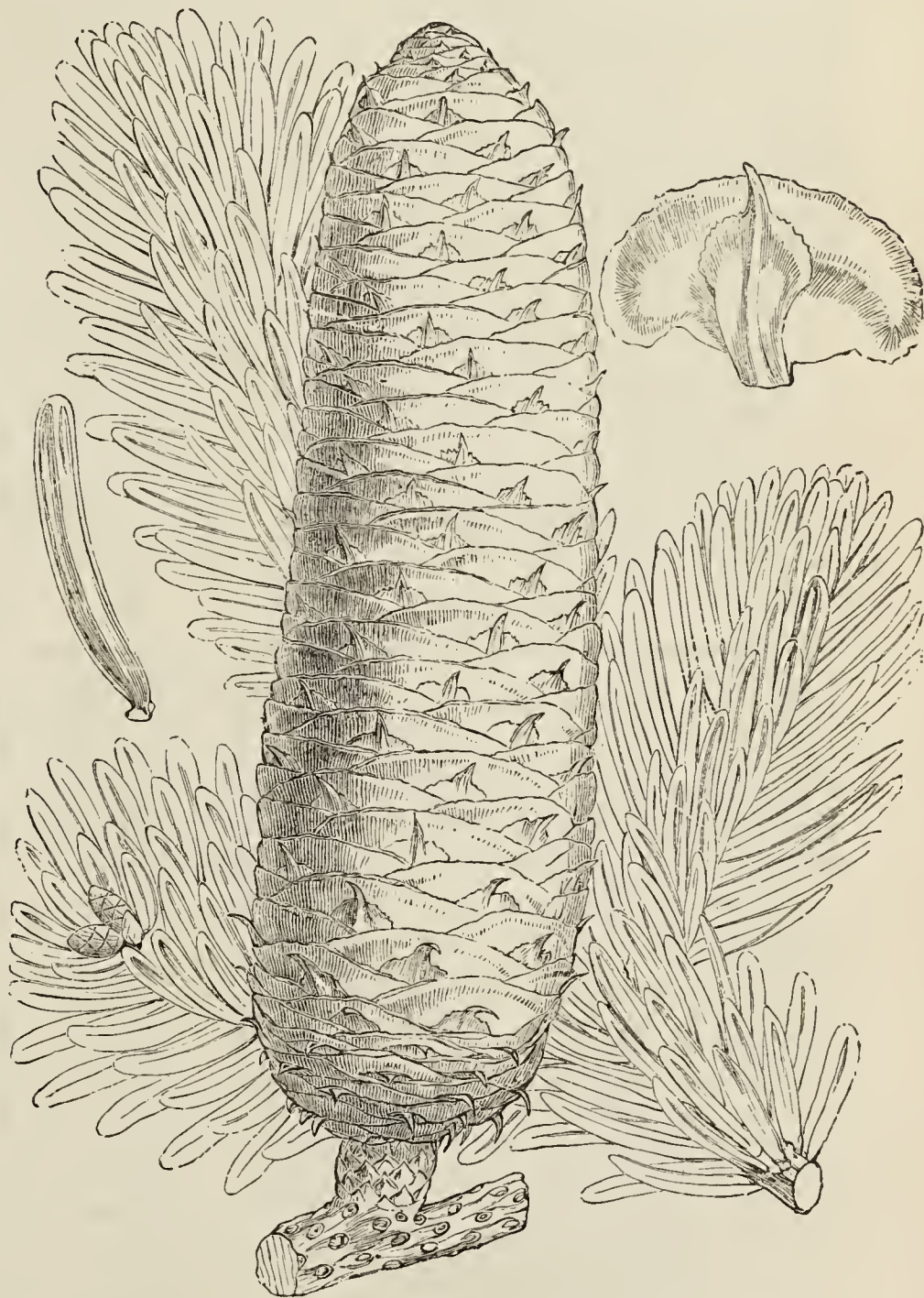


FIG. 60.—ABIES FIRMA.

rich purple, and the lower petals having a narrow margin of the same colour, and with a rayed centre. It is a large flower and distinct.

Of varieties which should be generally known and grown, Countess of Wharncliffe is a very fine pure snow white variety of excellent habit; William Neil, soft pink, and beautiful; and "Delicata," shaded silvery grey and lilac, a charming variety of good form.

Messrs. Dobbie & Co. also sent me blooms of a very fine new Fanev Pansy, "Mrs. Train," the top petals rich shaded violet, with a wire margin of bronze; the lower petals having an immense solid dense blotch, bordered with orange and lemon. Also a fine dark self show variety, "John Dodds," a rich velvety violet purple self, with clear gold eye, of first-class form and substance, and a really fine flower.—W. DEAN, *Sparkhill, Birmingham.*

### STANDS FOR GRAPES.

MR. TAYLOR opens up a very interesting subject on page 266 respecting exhibition stands for Grapes, a topic that will no doubt prompt some among the large number of Journal readers and contributors to give their opinions and experience thereon. It is desirable, as Mr. Taylor suggests, that something like uniformity should be observed in our Grape stands, similar, for instance, to that which prevails in the



stands for Dahlias and Chrysanthemums at the summer and autumn shows. At summer shows the Grape boards are most irregular in their dimensions; in fact, it often happens that no two among a large number of competitors have boards alike.

Exhibitors seldom have any guide in the matter of Grape stands, and thus are at a disadvantage compared to the Dahlia or Chrysanthemum competitors who have their national societies to regulate the sizes permissible for stipulated numbers of cut blooms of either flower. Provincial societies, following the rule set forth by the National, command uniformity throughout their display, which adds very materially to the general appearance, and at the same time places every one on equal terms. If some such rule as this were adopted in the stands for Grapes there would be, as a natural consequence, greater evenness and smartness than is often presented as the matter now stands.

Of course such a rule ought not to be rigidly enforced, because it is not everyone who, like Mr. Taylor, can make a new set of stands for any one particular exhibition for various reasons; but if rules were made most exhibitors will endeavour, to meet the demands of societies in that matter, the same as is now observed in connection with the flowers just named.

The Edinburgh standard of measurement certainly would not appear satisfactory, the boards not being deep enough for any but medium-sized bunches, and the angle allowed much too flat. Although deep stands necessarily require large boxes there is some advantage in having them, because the bunches are displayed much better than when crowded on shallow boards; but this argument will be met, no doubt, by the additional cost incurred in the material and labour required.

Regardless of cost, I am of opinion that the more simple the stands are made the better their appearance on the table, providing they are neatly padded with cotton wool, and covered with clean tissue paper of a white or pink colour, according to the variety of Grape to be exhibited. Moveable rather than fixed supports are preferable, because then an angle most suited to their position on the table can be determined on the spot, whereas when the stand is a fixture this cannot be done. Light wooden supports, fixed in the same manner as that common to Chrysanthemum boards, are most convenient, or they may be fastened at the back with light hinges. The first named would perhaps be best, because with a tight screw the supports would remain at any angle to which they may be placed without danger of slipping.—W. S.



EVENTS OF THE WEEK. — To-day (Thursday) the Royal Horticultural Society's Exhibition of Conifers at Chiswick is continued, and the Conference will also be resumed at 2 P.M., and the programme will be found on page 300. The Exhibition of hardy fruit opens to-day at the Crystal Palace, Sydenham, and will be continued until Saturday. On Monday, October 12th, the United Horticultural Benefit and Provident Society's Committee will meet in the Caledonian Hotel at 8 P.M. The usual monthly dinner and conversazione of the Horticultural Club will take place on Tuesday, October 13th, at 6 P.M. The subject for discussion will be "Choice Dessert Plums," to be opened by Mr. George Bunyard. The National Chrysanthemum Society's Floral Committee will meet at the Royal Aquarium, Westminster, at 1 P.M., on Wednesday, October 14th; and on Thursday, October 15th, the United Horticultural Benefit and Provident Society's annual dinner takes place at the Cannon Street Hotel. The sales comprise a further consignment of Messrs. Sanders' Cattleyas at Stevens's Rooms to-day (Thursday); a large sale of Orchids at Messrs. Protheroes' on Friday, October 9th, again on October 13th, and on October 16th the Elephant Moth Orchid, advertised in another column, will be sold.

— AS marking their recognition of DR. ROBERT HOGG's long and useful services to horticulture and botany, the Council of Administration of the Dutch Horticultural and Botanical Society have nominated him an Honorary Member of the Society.

— NATIONAL AURICULA AND PRIMULA SOCIETY (SOUTHERN SECTION) AND NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).—Mr. J. Douglas advises us that the annual general meeting of the above Societies will be held in the Horticultural Club rooms at the Hotel Windsor, Victoria Street, at 4.30 P.M. on Tuesday, October 27th. The business of the meeting will be the election of office-bearers and Committee for the ensuing year, receiving the reports of Treasurer and Secretary, to arrange for the Exhibition of 1892, and any other business that may be deemed necessary.

— THE PROPOSED AGRICULTURAL COLLEGE FOR KENT, SURREY, AND SUSSEX.—At the Sessions House, Newington, a meeting convened by the Technical Education Committee of the Surrey County Council was held recently for a Conference of representatives of the County Councils of Kent, Surrey, and Sussex as to the advisability of the three counties uniting to establish a central college of agriculture for the said counties. Amongst those present were Sir John Bassett Lennard (Chairman of the Kent County Council), Captain the Hon. T. Brand, and E. Eager (East Sussex), W. Arnold (Kent), Messrs. J. Coope, H. Yool, W. Rennie, A. E. Ellis, and B. Bray (Surrey), Mr. R. H. Kew (Secretary to the Central Chamber of Agriculture), Mr. J. Halsey, Chairman of Technical Instruction Committee (Surrey), and Mr. H. Macan, M.A., F.C.S., Secretary of the Technical Instruction Committee of the Surrey County Council. Mr. Halsey presided, and after considerable discussion it was decided on the motion of Sir J. Lennard, seconded by the Hon. Captain Brand, "That it is the opinion of this meeting that the three counties of Surrey, Kent, and Sussex can with benefit to themselves unite in a scheme for joint technical instruction in agriculture and horticulture by means of a joint college." Upon the motion of the Chairman the meeting adjourned until Monday, October 26th.

— GRAFTING GRAPES.—I shall be pleased if you will inform me, through the medium of your paper, as to whether any of your numerous correspondents have had experience with grafting or inarching late varieties of Grapes on Muscat of Alexandria, and if so with what result? —GEORGE CRAIG, *Richmond, Yorks.*

— THE TOTAL RAINFALL AT CUCKFIELD, SUSSEX, for September was 1.53 inch, being 1.60 inch below the average. The total for the nine months is 19.66, 0.61 inch below the average. The heaviest fall was 0.36 inch on the 21st; rain fell on fifteen days. Maximum temperature 76° on 11th and 13th; minimum temperature 39° on 28th. Mean maximum 64.2°; mean minimum 48.2°; mean temperature 56.2°. Partial shade readings 2° above the average.—R. I.

— THE WEATHER LAST MONTH. — September was remarkable for the warm period of nine days, from 6th to 15th, which was the finest and hottest weather we have had during the year. The wind was in a westerly direction twenty-two days. Barometer, highest 30.32, at 9 A.M., on 16th; lowest 29.38, at 9 A.M., on 1st. Total rainfall was 1.25 inch, which fell on ten days, the greatest fall being 0.49, on 21st. Highest shade temperature 85°, on the 10th; lowest 37°, on 24th; lowest on grass 31°, on 3rd. The garden spring ran 12 gallons per minute on the 30th.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

— THE WEATHER DURING SEPTEMBER, 1891.—The weather here during September was a great deal better than during the month previous, not nearly so much rain having fallen, and we have had much more sunshine; eleven days during the past month were grand summer days. Rain fell upon twelve days; maximum in any twenty-four hours being 0.34 on the 14th; minimum in any twenty-four hours being 0.01 on the 2nd. Total for the month, 1.40 against 0.39 of 1890.—E. WALLIS, *The Gardens, Hamels Park, Buntingford, Herts.*

— CLEMATIS LADY CAROLINE NEVILLE.—Those who are partial to Clematises should try this one, it is a gem for autumn as well as for giving flowers early in the summer. This is the advantage in growing the Lanuginosa type, the flowering season extends over a long period. We grow this variety on a south-west wall, allowing the shoots to intermingle with Jasminum officinale. The green foliage of the latter gives a capital base for the Clematis blooms, which vary from bluish white to deep mauve in their various stages of development. Three colours of flowers can be had at the same time on one plant. Abundance of water Clematis enjoy during growth. All the care in pruning this plant receives is that of having all current year's growth cut in close at the time the Jasmine is clipped with the shears. We usually cut this to within an eye or so for appearance sake.

— MINIATURE SUNFLOWERS are well worthy a place in the flower garden. Under good culture the plants grow on an average 4 feet high, and give abundance of flowers, which are very useful for cutting, and much more appreciated than many outdoor flowers at this time of the year. We plant a good number in vacant places in the herbaceous borders, and right well do they repay us for the small amount of labour expended on them at any time. The rich orange yellow of the outer florets contrasts well with the almost black disc. Stout plants are almost self-supporting, but for safety we place one stake to each, giving the



main stem one or two ties, and allow the side branches to hang loose, which is so much more effective than bunching them together, as sometimes seen. Sow the seed early in April, afterwards planting out is the best method of growing this annual.—E. M.

— WE are requested to state that the Canterbury Chrysanthemum Show will be held on the 10th and 11th of November.

— CHOICE ORCHIDS.—Among other Orchids in flower at Mr. William Bull's establishment, King's Road, Chelsea, three very remarkable and handsome ones are now in blossom—viz., *Laelia præstans alba*, of which only two plants are known to exist; *Cypripedium Saundersianum*, a very distinct hybrid, and one of the most rare of *Cypripedes* (not to be confounded with *C. Sanderianum*); and *Cattleya chelseiensis*, a natural hybrid, and one of the most beautiful *Cattleyas* known. Anyone interested in Orchids should not fail to avail themselves of the opportunity of seeing these remarkable plants in flower.

— ONE of the most pleasing combinations which I have seen made by two hardy plants was with *CLEMATIS JACKMANI* and *C. FLAMMULA* growing over the gardener's house at Benham Park a short time since. The aspect was east; both were flourishing as well as could be wished, for the deep purple of the larger variety contrasted capitally with the other.

— DYMOND PEACH is certainly one of the best varieties we have for outdoor culture, ripening this year from the middle to the end of September with us on a west wall. Small trees fruit quite freely, which is a strong point in its favour for owners of small gardens who have not the space for large-growing kinds. The fruit is round, somewhat flattened at the crown; the colour is deep on the sunny side; the flesh white, rich, and highly flavoured. Even this season it is the best outdoor Peach we have for flavour.

— PINUS PYRENAICA has not proved itself sufficiently hardy to withstand the weather experienced during the late winter, as during the last month a specimen 12 feet high died, which has had a browned suspicious appearance since the spring, when it refused to make growth freely. I should say it was the long continued frost that caused death, as this tree was sheltered from north and east winds by Portugal Laurel and Spruce hedges. The soil is heavy and retentive of moisture, but not what would be called a water-logged soil owing to the presence of so many flint stones, which provides ready means of percolation for the water.—E. M.

— HIBISCUS SYRIACUS.—This deciduous flowering shrub, which is known equally well as *Althæa frutex*, is one of the finest autumn flowering plants we have. Both double and single varieties are showy. The range of colouring is extensive—in fact, this feature is important as providing such variety. The pale lilac changes to purple, some to nearly blue; the pink with crimson centre, the different shades of blue and rose colours are all showy and interesting. Where the soil contains lime or chalk it is useless to plant these shrubs without a preparation of peat, leaves, and sandy loam.

— HARDINESS OF *CAMPANULA PYRAMIDALIS*.—With me there never has been a doubt about this plant being perfectly hardy. The seed is generally sown in boxes in a cold frame, afterwards pricking out the plants in rows in the kitchen garden, where they remain until the following spring, when they are lifted with a ball of soil attached and planted where they are to flower. Of course the blooms last longer fresh when grown in pots under glass, but given a spell of dry weather when the flowers are ready for bursting, they make a fine show out of doors.—HANTS.

— PEAR KNIGHT'S MONARCH.—There are few varieties to excel the old Monarch as far as quality is concerned, but it has such a wretched failing of casting its fruit prematurely that this must inevitably drive it out of cultivation. For several years past we have not had a dozen good fruit from a large wall tree, nothing that I could do preventing the bulk of the crop dropping off before being sufficiently matured for storing. This season a fairly large young tree, trained as a palmette verrier, came into bearing for the first time, and promised to give us a really good crop. The tree was heavily mulched, and was never dry at the roots (a presumable cause of premature dropping), yet fully half of the fruits are fallen, whereas they ought to have remained on the tree at least another fortnight. The finest fruit I have ever seen of Knight's Monarch were once shown at one of the Birmingham Chrysanthemum shows by Mr. Parker of Impney, and the grower

informed me that he saved the crop by watering freely during the summer. Have any other readers of the *Journal of Horticulture* been similarly successful, or are failures the general rule?—W. IGGULDEN.

— PEAR DUCHESSE D'ANGOULÊME.—From this variety we usually secure fine crops of large handsome fruits, but the Whit-Tuesday frost deprived us this year of the usual bounty. Are the blooms of this fine sort more susceptible to injury than other Pears generally? Why I make the inquiry is because other trees and varieties growing in close contiguity are bearing excellent crops. From three good sized pyramid specimens, which should yield a couple of bushels, we shall

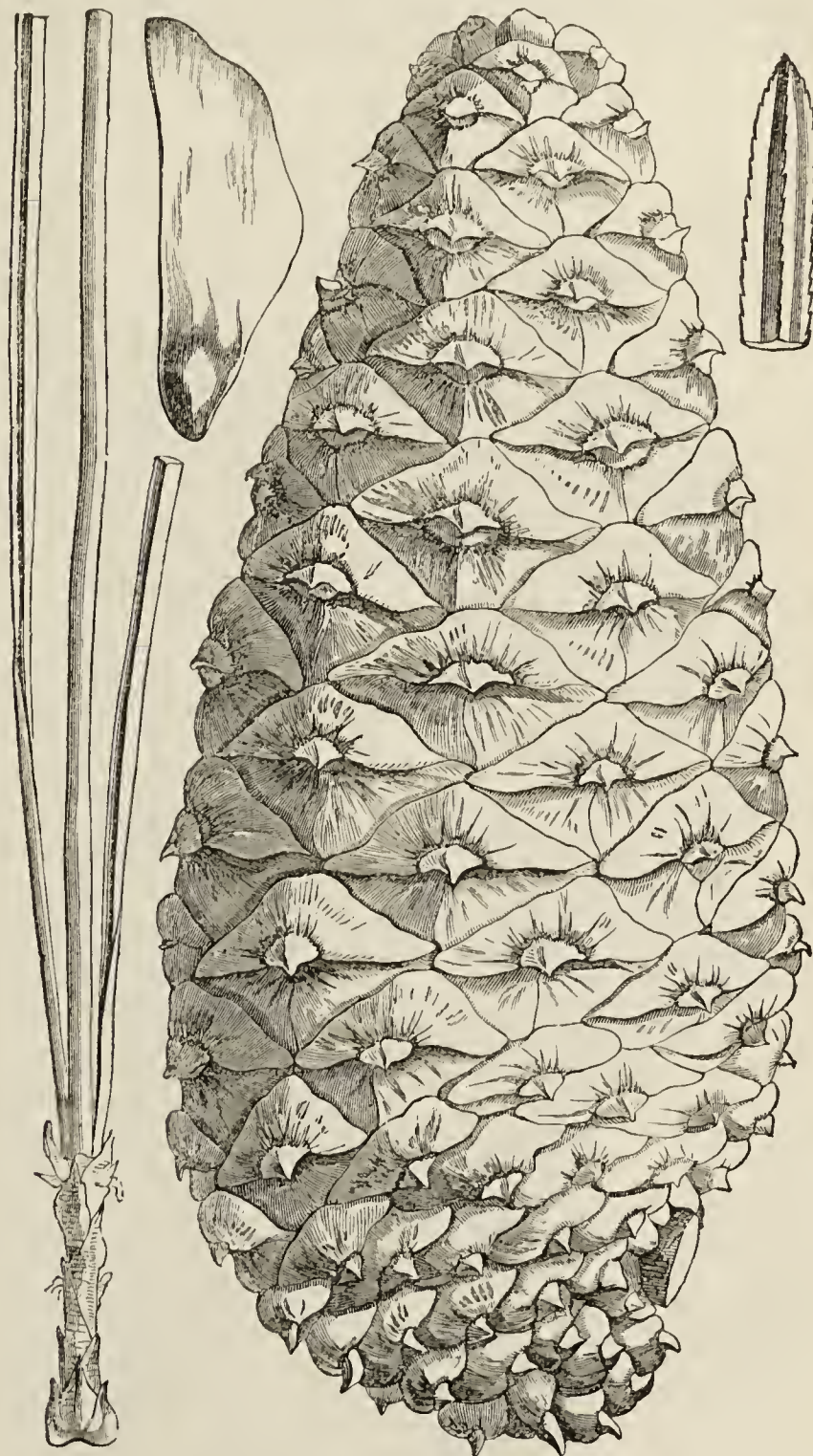


FIG. 61.—PINUS PONDEROSA.

not be able to gather a dozen fruits, although those flowered with the same freedom as the others. In the spring they were pictures with their finely developed bloom clusters, but the frost blackened them to such an extent as to leave us no hope of a crop, and that we now unfortunately realise.—W. S.

— A NOBLE EVERGREEN OAK.—The other day I had the pleasure of seeing the extensive and beautiful pleasure grounds of the Earl of Pembroke, Wilton House, Salisbury, and was particularly impressed by a grand specimen of the Holly-leaved Evergreen Oak (*Quercus Ilex*). The stem of the tree about 4 feet from the ground has a circumference of 24 feet. The circumference of the ground covered by its branches is 99 yards, and besides being so large it is most handsome. Mr. Challis, the head gardener, a few years back foresaw what destruction heavy snow would cause to this fine tree, very wisely had a dozen or two of large props put under the main branches, and thus it



has passed the stormy winter uninjured. There are also several very handsome Celars standing in the grounds of 70 acres in extent, with many others which I consider worth a journey of many miles to see. The avenue of White Poplars, *Populus alba* (Abele), consisting of seventy trees, planted about 24 feet apart on each side of a wide road, has a fine effect, and is worth imitating.—NOTABILIS.

### ROYAL HORTICULTURAL SOCIETY.

OCTOBER 6TH, 7TH AND 8TH.

THE October Exhibition and Conferences in the Society's Garden at Chiswick had been looked forward to with the keenest interest, and it was much regretted by all that the weather on the opening day proved so exceedingly unfavourable. The display of Asters, autumn flowers,



FIG. 62.—*SCIADOPITYS VERTICILLATA*.

and Coniferae exceeded the expectations of all concerned in the arrangements, the specimens in the last named section furnishing a unique attraction. Thousands of handsome cones were shown from the principal gardens where large collections of Coniferae are grown, the tent space not being sufficient and additional table room had to be provided outside. Beyond these, too, were the plants plunged in borders of cocoa-nut fibre refuse, all arranged so tastefully that a most pleasing surprise greeted the few visitors, who, undeterred by the drenching, continuous rain, found their way into the gardens.

**FRUIT COMMITTEE.**—Present: T. Francis Rivers, Esq., in the chair, and Rev. W. Wilks, with Messrs. Peter Veitch, H. Balderson, G. Wythes, G. Reynolds, M. Dunn, W. Bates, W. Denning, J. Cheal, A. Dean, T. J. Saltmarsh, and J. Wright.

Mr. James Shooter, 66, The Grove, Hammersmith, sent a dish of Louise Bonne of Jersey Pear, good fruits, and a cultural commendation was awarded. Mr. Hunter, Lambton Castle, Durham, sent two seedling

Pine Apples, the result of a cross between The Queen and Smooth Cayenne. One much resembled The Queen, and does not ripen in winter. The fruit was stained in the centre, and though very juicy, was not considered to be a distinct advance on its parentage. The other fruit was a fine bold Pine, more resembling the Cayenne, but with spiny leaves. It ripens in the winter, and has been grown 9 lbs. in weight. The fruit cut was extremely juicy, dull orange in colour, sprightly and refreshing, and an award of merit was unanimously awarded. Messrs. Robert Veitch & Son, Exeter, sent a dish of Peaches Late Devonian, the result of a cross between Belle de Vitry and Galande, medium size, dark in colour, but not of high-class quality. This, however, might be the result, to a great extent, of the dull season, and possibly the variety may be heard of again. Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, sent a very fine dish of Barrington Peach, grown on an eastern aspect in the open air, and a cultural commendation was awarded. Mr. Miller also sent a scarlet-flesh Melon named Ruxley Favourite, a promising variety, but the fruit was not ripe, and the Committee desired to see the variety again.

Mr. James Hudson sent from Gunnersbury very fine fruits of Coe's Golden Drop Plum, for which a cultural commendation was awarded. A vote of thanks was also accorded to Mr. Hudson for samples of Success Pear, a dark green productive variety which proved valuable for late use. It was, we think, placed in commerce by Messrs. Jas. Veitch & Sons. Mr. Bowerman, The Gardens, Hackwood Park, sent fine and excellently flavoured fruits of Brahy's Green Gage Plum, a valuable late variety, for which a cultural commendation was accorded.

Messrs. T. Rivers & Son, Sawbridgeworth, exhibited a dozen new Plums in the form of fruit-bearing branches cut from seedling trees. The fruits were of all sizes and colours seen in Plums, and some of the varieties will no doubt be perpetuated. Very fine dishes of the large and productive Monarch, the large and late Grand Duke, and the luscious Late Transparent Gage were also exhibited, as well as a young pyramid tree laden with handsome fruits of the Conference Pear. The variety was certificated four years ago, and is likely to prove of sterling merit. A vote of thanks was unanimously accorded for the collection.

Mr. G. Reynolds, The Gardens, Gunnersbury Park, sent such a collection of Hero of Lockinge Melon as had not been hitherto seen at the Society's meetings. There were three dozen fruits, every one being worthy of a place in a prize competition. A silver medal was unanimously recommended for this meritorious contribution. Mr. G. Wythes was accorded a vote of thanks for an excellent specimen of *Monstera deliciosa*.

Mr. Barron placed on the table several bunches of Hungarian Grapes grown in the Gardens. One of these, Dodrelabi, he considered identical with Gros Colman, and possibly indicated the origin of the market favourite. Another, named the Muscat of Hungary, may be described as a miniature Muscat of Alexandria, but richer, and possibly the finest flavoured Grape extant. The berries are not much larger than fine Marrowfat Peas, but oval in shape, and amber in colour. The Muscat of Hungary is a luscious novelty, and an award of merit was granted accordingly.

Samples of cooked Apples, from "chips and rings," dried in the Gardens by the Mayfarth apparatus, were placed on the table in a cooked state. They were quite equal to American Apples, but not quite so brisk as home-grown fruit cooked from the trees.

Some Plums, also dried artificially, were cooked in syrup the same as Prunes, and were really delicious. The varieties were, Rivers' Prolific, Poupert's Plum, and Fellemberg. The fruit-drying experiments conducted by the Society are not unlikely to prove of great, and it may be, national importance. More will be heard of them as the season advances. Colonel Hayward, Crosswood, Welshpool, also exhibited a good sample of dried and prepared Plums.

**FLORAL COMMITTEE.**—Present: Messrs. W. Marshall (in the chair), Herbst, G. Nicholson, W. Bain, C. Jeffries, R. Dean, J. T. Bennett Poë, H. Turner, E. Mawley, T. Baines, G. Gordon, W. C. Leach, G. Phippen, C. E. Pearson, W. Furze, J. Walker, H. Cannell, J. Laing, G. Paul, and B. Wynne.

An interesting collection of Asters in many species from the Chiswick Gardens included novæ-Belgii vars. Parkeri, Juno, Harpur Crewe, formosissimus, densus, roseus, Andromeda, Vesta, floribundus, Purity, pulchellus, and others; also Aëris, lævis, Amellus bessarabicus, and many others. The Rev. C. Wolley Dod, Edge Hall, Malpas, received a bronze Banksian medal for a collection of Asters, which comprised several of the forms previously mentioned, together with a number of seedlings. Messrs. Paul & Son, The Old Nurseries, Cheshunt, were awarded a silver Banksian medal for some splendid bunches of Asters and Sunflowers, including Aster novæ-angliæ, A. Robert Parker, A. dumosus, A. Tradescanti, A. lævis, A. Amellus bessarabicus, A. cordifolius, A. longifolius, Helianthus giganteus, H. latiflorus semi-duplex, and others. A collection of Asters and Sunflowers also came from the Royal Gardens, Kew. Messrs. H. Cannell & Sons, Swanley, had some beautiful bunches of Cannas, a few Begonias, Chrysanthemums, and Dahlias.

Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, London, received a silver Flora medal for a beautiful collection of hardy perennials, and silver Banksian medals were awarded to Messrs. J. Laing & Sons, Forest Hill, and Mr. Salmon, Norwood, for miscellaneous displays, a bronze Banksian going to Messrs. Cutbush & Son, Highbgate.

Mr. J. Hudson, gardener to Messrs. de Rothschild, exhibited Marguerite Carnations from seed sown on March 20th full of buds, and



received a vote of thanks. A similar award was made to Messrs. J. Veitch & Sons for Java hybrid *Rhododendrons*, a beautiful group, not sufficiently grown.

The classes for hardy perennials brought out some very attractive exhibits. In the first eighteen bunches were asked for, to include perennial *Asters* and *Sunflowers*, and Mr. E. Chadwick, gardener to

perennial "in the garden sense." It is exactly in a "garden sense" that it is a hardy perennial. Mr. Marshall was quite in accordance with the clear wording of the schedule, and should have been awarded the medal. Mr. A. Harding, gardener to the Dowager Marchioness of Huntly, Orton Hall, Peterborough, was placed second with some neat bunches. In that for eight bunches Mr. R. Debenham, St. Peter's



FIG. 63.—*THUIA GIGANTEA* AT LINTON PARK (HEIGHT 65 FEET).

E. M. Nelson, Esq., Hanger Hill House, Ealing, was placed first for some fine bunches, including *Helianthus multiflorus major*, *H. latiflorus simplex*, *H. multiflorus*, *H. m. flore-pleno*, *Aster floribundus*, *A. Amellus*, *A. novæ-angliæ ruber*, *A. Chapmanni*, *Anemone japonica*, *A. j. alba*, and *Phlox amœna*. The second prize went to Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, Richmond, who had *Aster formosissimus*, *A. Shorti*, *A. Amellus bassarabicus*, *A. sibericus*, *Pyrethrum uliginosum*, *Rudbeckia Newmanni*, and others. The first prize was not awarded in the class for twelve, Mr. W. Marshall's stand being disqualified for containing *Colchicum variegatum*, as not being a hardy

St. Alban's, won, his *Rudbeckia Newmanni* and *Phlox paniculata* being excellent.

ORCHID COMMITTEE.—Present: Messrs. H. J. Veitch (in the chair), J. Douglas, C. Pilcher, and H. M. Pollett. There was very little business for the Committee to transact.

G. O. Sloper, Esq., Highworth, received an award of merit for *Cattleya sp. aurea marginata*, remarkable for the combination of rich crimson and yellow, the lip being deeply coloured with crimson, and the throat broadly margined with yellow on both sides, crimson streaks radiating into it. A cultural commendation was awarded to F. A.



Bevan, Esq., New Barnet, for *Cypripedium Sanderianum*, which has been previously certificated.

#### CERTIFICATED PLANTS.

*Chrysanthemum Miss Watson* (Messrs. Cannell & Sons).—A Japanese in the way of Elaine, but clear soft yellow in hue, large, well-formed, and beautiful; and

*Dahlia Princess Christian* (Messrs. Cannell & Sons) a Decorative variety with broad, pointed petals, colour brilliant rose suffused with carmine. (Received awards of merit.) Messrs. Pitcher & Manda received a similar award for Carnation Lizzie McGowan, a free-flowering variety with pure white fringed flowers good in every respect but fragrance. Mr. R. Owen received a similar award for *Chrysanthemum Madame Edouard Lefort*, a Pompon with distinct bronzy yellow flowers. This was part of an attractive display of these flowers.

First-class certificates were awarded to

*Ixora Duffii* (Mr. Bain, gardener to Sir Trevor Lawrence).—A grand head of a fine species, being quite 9 inches in diameter, colour bright red.

*Asparagus retrofractus arboreus* (Mr. Bain).—A most graceful and pleasing species, the colour a soft light green.

*Lælia Perrini alba* (Baron Schröder).—A lovely variety with very large flowers, sepals and petals pure white, throat faintly tinted with lemon.

#### CONIFERS.

The display of Conifers far exceeded that of cut flowers in extent and interest. A large portion of the conservatory was occupied by them, one whole tent, a portion of another, and in addition there was what might be termed a "Conifer garden," several large groups being plunged in cocoa-nut fibre refuse out of doors, ranging from 1 foot to 10 feet in height, and the various forms and hues contrasted and blended.

There was one class for Conifers, in which the Veitch Memorial medal and £5 were offered as first prize, silver Knightian medal and £2 10s. as second, and £1 10s. as third. There were only two collections in competition, but both were fine ones, and that from Mr. A. Harding, Peterborough, was really remarkable. He had some grand specimens, and many of exceptional interest. The following constituted his splendid collection:—*Abies grandis*, *Pinus macrocarpa*, a very fine example; *Torreya myristica*, *Biota aurea*, *Cephalotaxus Fortunei*, *Taxus baccata fastigiata*, *T. b. aurea*, *Thuopsis borealis*, *Taxodium sempervirens*, *Taxus baccata*, *Pinus Jeffreyi*, also very fine; *Abies Nordmanniana*, *Juniperus chinensis*, *Cedrus atlantica*, *Pinus sylvestris*, *Abies Douglasi*, *Cupressus Lawsoniana*, *C. macrocarpa fastigiata*, *Biota pendula filifera*, *Pinus monticola*, *Larix europæa*, *Pinus Laricio*, *Wellingtonia gigantea*, *Pinus austriaca*, *Cedrus Libani*, *Pinus excelsa*, *Juniperus excelsa*, *Cedrus deodara*, *\*Retinospora plumosa*, a *Pinus* species, *Thuia gigantea*, *Libocedrus decurrens*, *Taxus adpressa*, *\*Thuopsis dolabrata variegata*, *Pinus muricata*, *Araucaria imbricata*, *Abies* species, very handsome, at first thought to be *Webbiana*, but afterwards distinguished from that; *Abies Morinda*, *Pinus ponderosa*, *\*Salisburia adiantifolia*, *Cupressus sempervirens*, *Abies cephalonica*, *A. bracteata*, *A. lasiocarpa*, *A. amabilis*, *Cupressus Lawsoniana variegata*, *Juniperus hibernica*, *Cupressus Lawsoniana erecta*, and *Retinospora plumosa*. All but the last seven, and those marked with an asterisk, had cones.

Mr. Crasp, gardener to Lord Wimborne, Canford Manor, Dorset, also had a fine collection, and was placed second. *Abies Pinsapo*, *Cedrus atlantica*, *Cryptomeria japonica*, *Abies nobilis*, splendidly coned, and *Cunninghamia sinensis* were exceptionally fine.

Mr. C. Herrin, gardener to Lady Fortescue, Dropmore, Maidenhead, had a good collection, not for competition, including some splendid cones of *Araucaria imbricata* and ripened seeds, *Pinus insignis*, *Abies nobilis*, *Cedrus Libani*, *Cupressus Goveniana*, *Thuopsis borealis*, *Cedrus Libani argentea*, *Abies Douglasi*, *A. Brunoniana*, and others. There was an enormous cone of *Pinus Lambertiana* in Dr. Masters' collection of dried cones.

From the Royal Gardens, Kew, came a very extensive collection of sprays of Conifers, showing the colour of the branchlets and the character of the growth, and was highly instructive. *Taxodium distichum pendulum*, *Sequoia sempervirens gracilis*, *S. gigantea pendula nova*, many forms of *Taxus baccata*, including *pendula*, *fastigiata variegata*, *argentea*, *Dovastoni*, *Sieboldi*, *horizontalis elegantissima*, *Washingtoni*, *Cephalotaxus pedunculata*, *C. Fortunei*, *Pinus pungens*, *P. Pinaster*, *Pinus sylvestris*, and several varieties of it, *Cedrus atlantica glauca*, *Larix europæa* in many varieties, *Pinus alba*, *Picea excelsa* in many varieties, a fine collection of Junipers and also of Cypressess, including *Cupressus torulosa*, *C. Benthami*, *C. arizonica*, and *C. Lindleya* were included. An interesting collection of Conifers came from Stuart Fotheringham, Esq., including *Cedrus deodara*, *C. Libani*, *Taxus baccata aurea*, *Cupressus Lawsoniana erecta viridis*, *Juniperus recurva*, *Thuja gigantea*, *Abies pectinata*, *A. Douglasi*, and others. Messrs. R. Veitch and Son of Exeter, Colonel Parker, Cambridge, and Lord Kinnaid, Rossie Priory, Perthshire, showed various specimens, some coned. Sir Patrick Murray, Ochertyre, Perthshire, had a large collection without cones; and Messrs. Dicksons, Limited, Chester, also had a grand display. H.M. the Queen, Balmoral, had a large collection, in which *Abies nobilis glauca*, *Abies nigra*, *A. Douglasi*, and *A. balsamea* were very good.

Amongst other interesting collections were those of the Duke of Sutherland, from Dunrobin, Sutherlandshire; Mrs. Malcolm Patton, The Cairnes, Perthshire; W. H. Maxwell, Munches, Kirkcudbrightshire; Earl of Hopetoun, Linlithgowshire; Earl of Mansfield, Scone, Perthshire. Colonel Tremayne, Carelew, Cornwall; Duke of Buccleuch.

Drumlanrig, Dumfriesshire; W. Nicholson, Esq., Alton, Hants; Mrs. Ford, Pencarrow, Bodmin; R. G. Lakes, Esq., Trevarrick, St. Austell; W. Gunn, Esq., Nutwood, Strathpeffer; C. J. Lucas, Esq., Horsham; Sir T. Dyke Acland; and T. S. W. Cornwallis, Esq., Maidstone.

Unfortunately heavy and continued rain seriously militated against a full inspection of the outdoor groups, as these were of special interest, and would have well repaid a close study. Disposed in groups so that the habit of the plants, the graceful character of the foliage, and the different hues were well brought out, they could not fail to be most instructive. Some more detailed reference will be made to them than can be given now.

Large groups came from Messrs. W. Barron & Sons, Elvaston Nurseries, Borrowash, Derby; Messrs. Dicksons, Limited, Chester; Mr. Anthony Waterer, Woking; Messrs. Paul & Sons, Cheshunt; Messrs. Jefferies & Son, Cirencester; Messrs. J. Veitch & Sons, Chelsea; and Messrs. C. Lee & Sons, Isleworth. Messrs. Paul also had a display of small compact Conifers recommended for rockwork.

On the first day a conference on Perennial Asters and Michaelmas Daisies was held, when the following papers were read, after an opening address by the Chairman, Mr. J. G. Baker:—"The Genus Aster," by Professor Goodale, Director of the Botanic Gardens, Harvard University, U.S.A.; "Michaelmas Daisies," by the Rev. C. Wolley Dod; "Perennial Sunflowers," by Mr. D. Dewar; and "The Culture of Sunflowers," by Mr. E. H. Jenkins. The Conifer Conference opened on Wednesday (see page 300), and is continued to-day (Thursday).



#### CULTURAL NOTES.

I SHALL not easily forget the impression made on me by the first view I ever enjoyed of a Chrysanthemum exhibition. It was about four years ago that I visited the Exhibition at Bath that I was inoculated with the mania attached to the flower, and that the inoculation immediately took effect. I came out of the Assembly Room declaring that I had seen flowers styled Chrysanthemums from my youth up (many years departed!) but had never seen a Chrysanthemum before. Some of those blooms cling to my memory now—notably a bloom of Fair Maid of Guernsey in the first prize Japanese from Marston. I invested in Molyneux's book, and studied all in your columns on a flower that I had for years laughed at as a florists' flower; and of course I expected, with the enthusiasm of youth, to rival the blooms at that Exhibition at once. Well, there is much pleasure and interest in growing Chrysanthemums—there is an interest in watching the growth of the cuttings, mingled with emotion of a painful character, as the best—always the best and most expensive—decline and fail to root; then there are the horrors of such a winter as last year, when the cold frame, with its hundreds of cuttings, covered with wattled hurdle and a foot of snow on the top and with manure on the outside round its walls, nevertheless was invaded by the ruthless cold, and numbers of cuttings, unrooted and rooted, reduced to a mass of blackish pulp. Yes, this is interest in another form. Then there is the interest of growth in the cuttings, the various pottings, the look out for enemies (and they are legion), the stoppings, the selection of buds before the crowning triumph of prize blooms is achieved. Then there is the immense variety of form and colour, of growth and foliage, and the kindness of Nature's God in giving to us at an unseasonable time of year flowers of such great beauty that, unlike the beautiful queen of flowers, are so lasting in their perfections. Certain Roses, Teas especially, will grow and improve for two or three days after cutting; but many Chrysanthemums will improve for as many weeks, and then continue in glory for many days.

Two years later I thought I had learnt how to grow them. They filled me with delight. Friends exclaimed they had never seen such flowers in their lives, &c.; and with great expectations I ventured to compete in several classes at a neighbouring show. I found that if two years had made a difference in Chrysanthemums to me, it had made a far greater difference to the general growers since that Bath Exhibition, and instead of being "easily first," I was easily outside the triple list of prizetakers. I took my man Friday with me to this Show, and his depression was considerably greater than mine.

We struggle on, trying to learn something about a class of plants which has its own particular difficulties. My Rose-growing friend, who, though only a Budd, manages at the Show to be in glorious full bloom, once said to a mutual medical friend, "I know something about Roses; but I confess, though I have grown Chrysanthemums some time, I know nothing about them." Certainly, about some varieties, you never seem to get to the bottom of their whims and vagaries. I confess that the first year I grew Chrysanthemums I succeeded in growing Meg Merrilies better than I have ever done since; the same may be said of Fimbriatum. On the other hand, fired with the memory of that glorious Fair Maid of Guernsey at Bath, I had some plants, and was rewarded by large plants and blooms that would not have disgraced a "single" Chrysanthemum, but had no claim to be even distantly related to the bloom at Bath. The next year I succeeded in getting some florets out of the dark centres



of what were still only "single;" but last year I really obtained white flowers, which I should have called very beautiful but for the memory of the Bathonian, to which my flowers still appeared only cousins very distantly removed. Still, at our local exhibition, I put up as six of one variety six of these blooms, with which many people were very charmed, and they were grown from buds which when "taken" looked no larger than a pin's head. (Query.—Are the buds of this, of Belle Paule, and one or two others generally very small crown buds?)

I fully realise that no amount of book advice can make a person cognisant of the mysteries of "taking the bud." This seems to me a matter so dependent on the look of the bud, the variety with its special peculiarities, and the season, that prolonged experience and note-taking seem the only guide to knowledge. This year, for myself, I have adopted this plan. On the label I put, for instance, "Fair Maid of Guernsey, N. 17." N. 17 means, cutting put in November 17th, and of course D. would be December, and so on. Well, then, I have put "C., A. 28," which stands for "Crown bud, August 28th," and then "T., S. 10," stands for "Terminal, September 10th," then I think of adding, "H., O. 5," which will mean "Housed, October 5th," and then "B., L., P., F., G., V. G., N. 15," will do for blooms, "Bad, indifferent, poor, fair, good, or very good, November 15th," as the case may be; then I can, later on, take my labels and note results in a book. I confess that I am now, like my friend some years ago, I know nothing about them, but I shall try to learn.

"Hope tells a flattering tale," and sometimes I fancy I have already learned something. Some plants as they grow put on a "sickly glare," instead of robust green they have a jaundiced eye greatly developed. Edwin Molyneux has always served me so. A gardener coming into my place in July exclaimed, "Hallo, sir, you've been putting it on too hot." It so happened at that time none of the plants had been extra fed at all. These plants were set aside by themselves, refused all drink, except when actually fainting, and then indulged with a little very weak soot water, and judging from the verdure of the present foliage, the remedy has been most successful.

Now, I should like to learn why a grand looking bud should begin to unfold its glories, and the three or four rows of outer florets expand, whilst the remainder just show colour and remain half an inch long, stunted, curled in, and refusing to grow any more. Why is this? What is the difference between a crown and a terminal bud? Yes, I know what is said in Molyneux's book, the one is the second and the other the third break, but given the branch into your hand is it always easy to tell which the bud is? At first I was disposed to say that in the crown bud branch the shoots in the axils of the leaves are small branches of leaves with eight or ten leaves before the bud appears. On the other hand, the terminal shoots are buds with at most two very small leaves, but almost all the crown buds of Lord Alcester, Bronze Queen, Empress of India, in fact the Queen family, have at any rate this year a crown bud exactly similar to the terminal. Is this the general run of that family? Once again, does not the first break often give a bud of good promise, and one that may with hope be selected when, if not taken, the other buds would be far too late for the shows? Yes, I know that a fool may ask questions that wise men cannot answer. I am, I confess, an ignoramus, but perhaps some kindly wise man will enlighten me. I should be very grateful.—Y. B. A. Z.

### BUYING FRUIT TREES.

THE planting season is now rapidly approaching, and intending planters are, or should be, making their preparations. A few words, therefore, upon the subject of choosing trees may not be out of place. My first advice to purchasers is, Be early in the field, and secure what you require while the stock is still ample. Your nurseryman will be glad to see you now and to go through his stock with you, marking selected trees and discussing the relative merits of varieties, &c. In a month's time or so, when he is overhead and ears in work despatching goods you will have to take a large order with you to be very welcome. Another advantage of an early inspection is that all the free-bearing Apples and Pears are now full of fruits. This is the case with even two-year-old trees of such precocious sorts as Lord Suffield, Cellini, Stirling Castle, Ecklinville, Lord Grosvenor, New Northern Greening, Pott's Seedling, and Domino, amongst Apples; and Fertility, Beurré de Capiaumont, and others amongst Pears, so that much useful information may be picked up on this head during a walk round a good nursery.

Again, it is much easier for a novice to judge of the quality, health, and age of trees whilst the foliage is still green than after it has all fallen and he has only the wood to look at. If he keeps his eyes open he may also see if any stock is kept of aphides, American blight, &c. (this will not probably be pointed out to him), and the utility of such knowledge does not need to be indicated. I would strongly advise buying young trees; even if standards be required, buy two-year-old feathered, as they are called, and then trim them to your liking afterwards. The reason is that a young tree has all its roots near home, and they may all be sent with it; whilst the older tree often leaves some of the best part of its roots—viz., the feeding fibres—in the ground, they having wandered too far to be secured in lifting.

Avoid carefully old hide-bound, badly grown stock, as it is dear at a gift, and will probably be still struggling for existence when healthy young trees are bearing marketable crops. On the other hand, it is possible for trees to be grown too strongly, and so form gross thick shoots, which will not ripen, and consequently suffer from severe frost,

whilst the roots are thongy and destitute of fibre. Trees of this description rarely move well. One other point to be noted is the colour of the bark. Trees grown in suitable soil and situation are bright and clean on the bark, whilst those in wet, bad soil are often dull and discoloured, the stems having the appearance of being covered with a minute lichen or mould. It goes without saying that an undergrowth of Couch Grass does not benefit young fruit trees, and I have seen a consignment of trees whose stems, prettily decorated with spiral markings, showed that bindweed was not unknown where they came from.

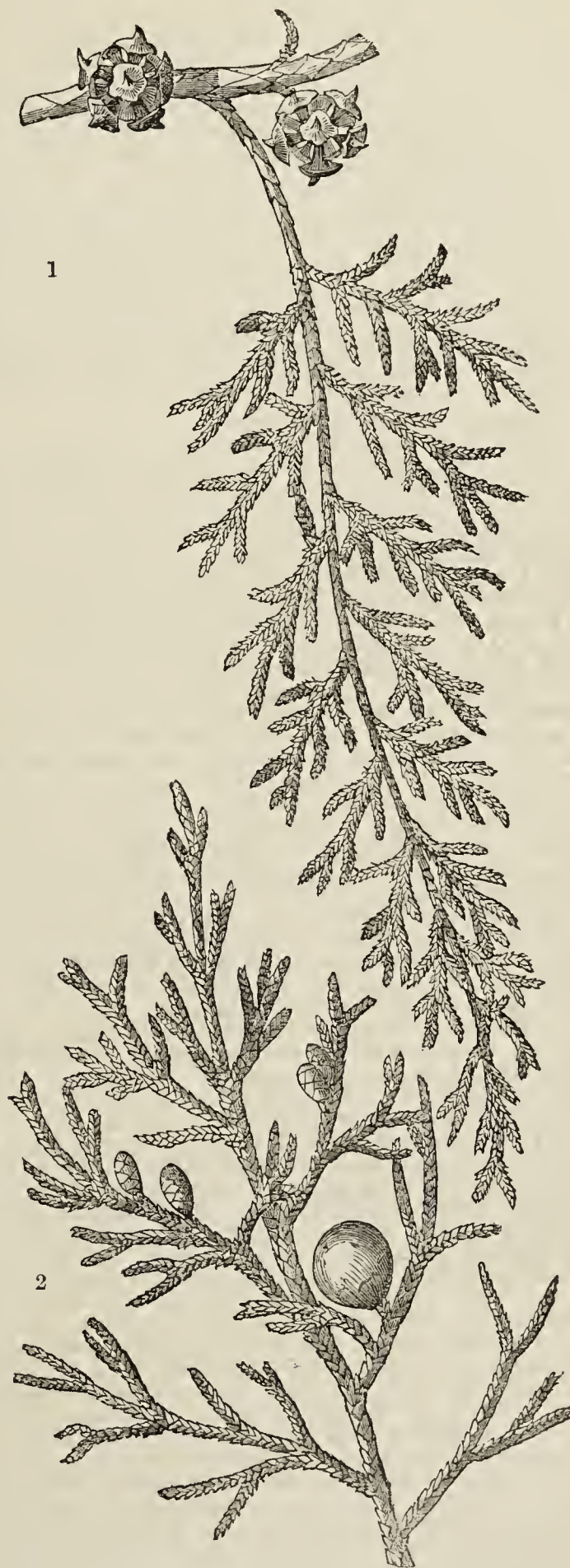


FIG. 64.—1, CUPRESSUS FUNEBRIS; 2, JUNIPERUS SPHÆRICA.

I have endeavoured to avoid any questions open to diversity of opinion, under which one might class varieties suitable to various soils and localities, and the important question of the stock employed for various fruits; but there can be no doubt whatever as to the capital importance of procuring trees which are true to name. There are so many men who have taken the trouble to plant fruit and study the very numerous varieties which are now in commerce, and to propagate from what they have proved to be true, that the purchaser should have no difficulty on this score.—A. H. PEARSON.



## WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.

### HORTICULTURAL EXHIBITION AND CONVERSAZIONE.

It has been a pleasure to us from time to time to report the progress made by the above excellent Society, but on no previous occasion has the Society claimed such notice as was accorded it last Thursday, where at the beautiful Parochial Hall, Woolton, was opened an horticultural exhibition and conversazione, which was continued the following day. The objects of the Exhibition were to arrange an interesting display of specimens in connection with horticulture, and to provide funds for the extension of the Society's library. Numbering seventy or eighty members, the Society has been in existence for about two years, but never before has any effort in the direction under notice been taken in hand. The experiment cannot fail to prove successful, as everyone who visited the Exhibition must have been struck by the unique display. The platform of the hall presented a very gay appearance. On each side were large Palms, whilst the front portion was decorated with Panium, Maidenhair Ferns, and Zonal Pelargoniums. In the background was a finely flowered plant of *Anthurium Andreanum* from Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton. A stage ran round the room, and stages across contained the exhibits, which consisted of fruit and flowers, modern and ancient garden pictures, plates, photographs and literature, fossils, dried flowers, Ferns and Grasses, novelties, varieties and monstrosities of plant life, horticultural appliances, microscopes with botanical sections, insects, and apian exhibits. Much taste was displayed in their arrangement, and the hall presented a most pleasing effect.

The President, Holbrook Gaskell, Esq., Woolton Wood, opened the Exhibition, and stated that the idea, and the successful carrying out of it, was due to the gardeners themselves. He went on to speak in the highest of terms of the work done by the Society, and concluded by pointing out the beauty of gardening for those having a taste for it. Turning to the exhibits the first to be noticed were those belonging to the President, who had contributed to the greater portion of the sections. In literature were Loudon's "Encyclopædia of Gardening," Pontey's "Forest Pruner and Planter," Seboth's "Alpine Plants," Veitch's "Manual of Orchidaceous Plants," "Lindenia," "Fairfield Orchids," "Botanical Magazine, 1782," Warner's "Select Orchidaceous Plants," Williams' "Orchid Album," and a magnificent work printed by order of the Emperor Napoleon by Alphand, entitled, "Les Promenades de Paris." It was undoubtedly the finest work exhibited, and found many admirers. The collection of Orchids which the same gentleman exhibited were arranged in one corner of the room, and a splendid effect was produced by Mr. Todd, Mr. Gaskell's able gardener. Conspicuous were *Lælia elegans* Turneri, which secured a certificate of merit; two fine plants of *Cattleya Dowiana*, *Cattleyas Gaskelliana*, Loddiges', and *Sanderiana*, *Miltonia Morrelliana*, *Masdevallia Chimæra Backhouseiana*, *Cypripedium callosum*, and many others equally beautiful; also fine selection of *Nepenthes*, *Dionæa muscipula* (Venus' Flytrap) *Cephalotus follicularis*, Madagascar Lattice Plant (*Ouvirandra fenestralis*), inflorescence of *Cycas circinalis* (rare), and fruit of *Pyrus Maulei*. Messrs. Charlesworth & Shuttleworth, Heaton, Bradford, had about thirty varieties of Orchids, many of them very valuable; the following were well flowered—*Miltonia Clowesi*, *Odontoglossums Harryanum* and *nebulosum album*, *Oncidium Forbesi* and *macranthum*, *Cattleya Schofieldiana*, *Lælia Perrini*, *Zygopetalum crinitum*. Messrs. R. P. Ker & Sons, Aigburth Nursery, had a fine collection of new and rare plants, amongst others their new *Crotons* Aigburth Gem and Golden Ring.

Mr. J. J. Craven, gardener to J. E. Grant Morris, Esq., Allerton Priory, exhibited six fine bunches of Black Hamburgh Grapes, a plant of the Red Currant Tomato in a pot, and a good specimen of the Silver Fern *Gymnogramma peruviana argyrophylla*. Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, contributed excellent specimens of Tomatoes Dedham Favourite, Webb's Sensation, and Golden Queen, Dickson's Excelsior Cucumbers, and inflorescence of *Cycas revoluta*, very curious, and which attracted much attention. Mr. Jellicoe showed Loekey's Perfection Cucumber and a collection of plants. Mr. Vaughan, gardener to T. Brocklebank, jun., had remarkably good Cockseombs. Mr. C. Osborne, gardener to Lieut.-Col. H. J. Robinson, Aymestry Court, had four Orchids in bloom, amongst which was the autumn-flowering variety of *Odontoglossum vexillarium*, variety *rubellum*. Mr. G. Eaton, gardener to W. H. Shirley, Esq., Allerton, had a grand stand of hardy herbaceous cut flowers. The lovely *Lychnis vespertina*, *Aster sagittifolium*, and *Helianthus multiflorus* Soleil d'Or standing out prominently, with choice Phlox and Lilliums in perfection. Mr. J. Storey, gardener to Sir T. Earle, had superb samples of Ailsa Craig Onion. Mr. Winkworth, gardener to R. Brocklebank, Esq., contributed a small but excellent collection of Cacti and Succulents, and fruit of hardy Arum and Mulberries, a very interesting exhibit. Mr. Norman Davis had a fine stand of early-flowering Chrysanthemums, amongst them being Mrs. Cullingford, M. Pyneert Van Geert, Blushing Bride, Bouquet Estival, Flora, Scarlet Gem, A. Butcher, Bouquet de Dames, and the new incurved M. Bahaunt. As shown it was rather loose in form, but may come better later in the season. The petals are good, but I think it will have to be seen in better condition before it can be proved any acquisition to the present incurved varieties. Seeing it so early is no criterion of what it may prove. Messrs. Clibran, Altrincham, had a magnificent collection of herbaceous cut flowers, Dahlias, and their new *Tropæolums* Mrs. Clibran and Clibran's Gem. This collection well deserved the certificate of merit awarded to it.

The Liverpool Botanic Gardens contributed a collection of most curious works and horticultural works, and Mr. P. Harbordt, Covent Garden Seed Stores, garden appliances, &c. Grapes were shown by Mr. Thos. Hayes and Mr. H. Cunningham. Mr. E. Molyneux, gardener to W. H. Myers, Esq., Swanmore Park, Hants, exhibited dishes of Quinces, Medlars, Plums, Pitmaston Duchess Pears, &c, the two latter being superb. Photographs embracing many subjects were also shown, the principal contributors being Lieut.-Col. J. B. Gaskell and F. H. Gossage, Esq. From Mr. M. Dunn, Dalkeith Palace, came a collection of 100 varieties of Apples and Pears; Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., Glewston Court, Ross, had a well-coloured collection as well. There were no prizes given, but three certificates—viz., cultural, certificate of merit, and highly commended. The following are the awards:—

*Modern and Ancient Garden Pictures, &c.*—Certificate of merit, Lieut.-Col. J. B. Gaskell, photographic albums; F. H. Gossage, views of Gwysaney; he, Mr. R. Todd, for *Odonto. Alexandræ*, water colour; Holbrook Gaskell, Esq., ancient Chinese landscapes; Messrs. Charlesworth & Shuttleworth, photographs by their collectors; Messrs. Sander and Co., for "*Reichenbachia*;" and to H. Gaskell, Esq., Mr. R. Fleming, and Liverpool Botanic Gardens for ancient garden literature.

*Fossils, Dried Flowers, Ferns, Grasses, &c.*—Certificate of merit, Mr. M. Smout, Seaweed table decorations; Mrs. Hodgkins, Manchester, skeleton leaves; Mr. J. Edwards, Allerton Beeches, dried Orchid flowers; vhc, Miss Jump and Mr. J. Griffiths, fossils and dried flowers; he, Miss Griffiths and Mr. R. S. Waterman for dried Ferns.

*Novelties, Rarities, and Monstrosities.*—Certificates of merit.—Holbrook Gaskell, Esq., and Charlesworth & Shuttleworth for Orchids; W. H. Myers, Esq., *Physalis Alkekengi*; Mr. Jellicoe, Fern-covered water bottle; Messrs. Ker & Sons, new and rare plants; and Liverpool Botanic Gardens for curious plants. Highly commended.—F. H. Gossage, Esq., and H. J. Robinson, Esq., for Orchids; Mrs. Cope for inflorescence of *Cycas revoluta*; Mr. R. Brocklebank for Cacti, &c. Cultural certificate.—Thos. Brocklebank, jun., Cockseombs; Holbrook Gaskell, Esq., for Orchids and other plants.

*Collection of Fruits, Plants, &c.*—Certificates of merit.—Mr. Norman Davis (London), early Chrysanthemums; Mr. J. Leather for butterflies and moths; W. Lees McClure, Esq., fifty varieties of honey-yielding plants; Messrs. H. Thompson & Sons, St. John's Market, for splendid exhibit of foreign fruits. Highly commended.—Mr. T. Hayes, J. G. Grant Morris, Esq., and H. Cunningham, Esq., for Grapes; W. H. Myers, Esq., for collection of fruit; C. Lee Campbell, Esq., and Mr. M. Dunn for Apples and Pears; Mrs. Cope, Cucumbers and Tomatoes; Mr. J. Leadbetter, spring-sown Onions; Mr. T. Leadbetter, case of flies. Cultural certificates.—Mr. Jellicoe, *Adiantum cuneatum* (window plant); J. Grant Morris, Esq., for Silver Fern and well-flowered plant of *Aristolochia elegans*; F. H. Gossage, Esq., Palms; W. H. Shirley, hardy flowers; and Mr. J. Stoney, Ailsa Craig Onion.

There was also a stall set apart for the benefit of the Gardeners' Orphan Fund, to which the following contributed articles for sale:—Liverpool Horticultural Co., R. P. Ker & Sons, Gateacre Nursery Co., Messrs. W. H. Myers, T. White, H. J. Robinson, C. L. Campbell, W. L. McClure, N. Davis, F. H. Gossage, H. Gaskell, M. Dunn, and Mrs. Cope.

The following works were presented to the Society:—"Reichenbachia," by F. Sander & Co., St. Albans; horticultural works, by B. S. Williams, London; "Vines" and "Chrysanthemums," by E. Molyneux; "Training and Culture of Fruit Trees," by Mr. T. White. The judging gave every satisfaction. The Hon. Sec., Mr. J. Rothwell, Hon. Treasurer, Mr. R. S. Waterman, and the hardworking Committee may rest assured that they have done a good work, and set an example worthy of emulation, and it is to be hoped they will have gained the object they had in view.—R. P. R.

## RHODODENDRONS.

I SPENT a summer not long ago in the mountains of Western North Carolina, and saw a part of the Rhododendron procession that is such a famous feature of that sylvan region. The time of my going thither was the second week in June, and the *R. Catawbiense* and *R. Vaseyi* were already out of bloom, while the *R. maximum* and *R. punctatum* were just showing the delicious pink of their opening buds. The interval meantime was superbly filled by the flame-coloured Azalea—*A. calendulacea*—which is the most splendid forest blooming shrub that I have ever anywhere seen.

*R. maximum* well deserves its name, notwithstanding Dr. Hooker's discoveries in the Himalayan mountains, for it is not uncommon to find it from 30 to 35 feet high, with a bole at the base from 10 to 14 inches in diameter. It fraternises perfectly with the *Kalmia*, supplementing it in flowering, and I have seen acres of the two a mass of bloom for weeks, forming a floral display well worth a long journey to see. A Rhododendron jungle is an interesting thing to enter, because of the curious and sprawling way the branches reach out and interlace with each other. But they are detestable to the surveyor or woodsman, who readily calls them what the mountaineers do—"hells." They spring up abundantly from seeds, and they seem to thrive in clearings, quite as well as when surrounded by shade. I remember two particularly fine Rhododendron clumps, 10 to 12 feet high and half as great, or more, in diameter, and beautifully spherical in shape, which grew on the north side of my aunt's house in Burlington, New Jersey, to which place they



had been transplanted several years before from the Jersey woods. The trusses of flowers which they bore were very nearly white.

*R. maximum* of the North Carolina mountains is a delicate pink of varying shades. A sketch I made of what I then thought to be the *R. maximum* in 1885 in the State of Washington, where it grows in the Puget Sound region from 10 to 12 feet in height, shows a highly coloured flower of a rich, deep pink—possibly the *punctatum*. The *R. catawbiense* with its purple flowers is probably the progenitor of most of the delightful varieties produced by English gardeners from what they call the "American Flower"—giving us a broad hint to adopt it as our national posy. It is not weed-like, after the manner of the vivacious Daisy, or the rampant Golden Rod, but elegant and patrician from leaf to flower, grows from New England to Alaska—at least I found the *Kalmia*, its twin brother, there—and all in all, is fine enough to please the most fastidious. The *R. Vaseyi*, which is deciduous, and has I believe only been found in the North Carolina mountains, is a shrub of great beauty, and is placed by some flower lovers at the head of all *Rhododendrons* in point of beauty of bloom.

The Puget Sound basin, by the way, with its England-like climate,



FIG. 65.—THUIOPSIS DOLOBRATA.

produces some growths which seem to us dwellers on the Atlantic coast as remarkable; for instance, I saw a single Vine-stock of English Ivy mantling a house in Seattle, which was a foot in diameter at the base! —(*Meehans' Monthly*.)

**CALCEOLARIAS AND VIOLAS.**—Before the beds are finally broken up abundance of cuttings of these two very serviceable kinds of summer bedding plants ought to be put in. Neither require nor should have any artificial heat. Three parts fill shallow garden frames or brick pits with old heating material, making this quite firm. On this place not less than 4 inches of fine light loamy soil, finishing off with a surfacing of sharp sand, making all level and smooth. Select short flowerless shoots, reduce these to a length of about 3 inches, cutting to a joint and trimming off the lower leaves, and dibble them in just clear of each other all over the bed. Water and keep rather close and shaded till the cuttings freshen up, then give more air and do not coddle in any way, as no top growth is desirable before next spring. Failing frames or pits use either handlights or boxes, the latter being placed in cold frames. Both kinds strike very readily thus treated, and plenty of strong plants ought to be available next season.



#### HARDY FRUIT GARDEN.

**Pruning Large Standard Trees.**—Now is the best time to attend to this, as soon as the fruit is gathered and before the leaves fall, because it is easy to see where the weak and worthless branches are, and where the healthy ones are too close together; but after the leaves are off it is much more difficult to ascertain which branches ought to be removed. Too many persons have an aversion to pruning large fruit trees, and think it unnecessary because the trees do not make growths a yard or more in length every season, consequently the bush and espalier trees get the whole of the attention, and very often a great deal too much of the pruning knife, and the large trees are left to take their chance, becoming in time dense heads of weak wood that cannot bear sound useful fruits, and are interspersed freely with dead or cankered branches. The fruit under these circumstances become smaller every season until at last the tree is condemned as worn out, having become old long before its time from want of proper attention. If the main stem and principal branches are sound a little extra care will often bring such trees round to a healthy condition in a short time. The tops should be dealt with at once, leaving the roots to be attended to a few weeks hence. Commence by removing all dead and decaying branches, and also all those that are merely filling up the centre of the tree. The latter often appear to be the most healthy part of the tree, and probably are, but they only rob the other branches, and any fruit in the interior of the tree is sure to be small and flavourless. The main portion of the head has next to be thinned, so that air and light may reach all the leaves in sufficient quantity. The amount of wood to be taken out will vary with the different varieties. Among Apples, for instance, King of the Pippins and Peasgood's Nonesuch form more open trees naturally than do Wellington, Cox's Orange Pippin, and Keswick Codlin. All should be thinned so that the fruiting spurs can have the full benefit of the sunshine. Cutting out the weaker branches will cause a more abundant flow of sap to the parts that are left, and with good attention in other ways the trees so treated will show a marked improvement next season. All branches taken out should be sawn off carefully close to the main branches, and the wounds on the latter must be pared carefully with a sharp knife. Do not make large wounds if it can possibly be avoided; they are apt to decay extensively before the bark grows over them, and often seriously endanger the life of the tree. If it is necessary to remove any branches more than 3 inches in diameter the wounds should at once be coated with pitch to prevent decay. After thinning the branches to a moderate distance apart no more pruning of the top growths will be required at present. Those branches that remain should be left entire, and not shortened in any part unless they are growing into the neighbouring trees, in which case a space of 2 feet at least must be cleared all round each tree, and this space should always remain clear and open, or the trees overlap each other, and then the weakest grower gradually perishes.

**STRAWBERRIES.**—Keep a strict watch on newly planted beds and others, also remove all runners as soon as they appear, and keep down weeds, which are very troublesome this season. If the summer mulching still remain on any of the beds lose no time in removing it. Autumn fruiting beds will need attention to keep the fruit from birds and from damage by slugs. Beds in poor soil will be much benefited now if a good top-dressing of manure is given them. They will derive strength and nourishment from it all through the winter except during severe frosts, and even then will be much assisted by the protection and warmth it will afford them.

**CLEANING PLANTATIONS.**—Have all the fruit quarters thoroughly cleared of weeds before cold weather comes. Any seed weeds should be removed by hand and destroyed, and others hoed and raked off to prevent their starting into growth again, and to make all clean and tidy for the winter. Weeds with perennial roots, such as Dandelions, Couch, Bindweed, &c., are best attended to now while they are easily found, and must be dug out and burned; nothing but unceasing attention in this way will overcome them.

**LABELLING FRUIT TREES.**—The present season is an excellent time to attend to this wherever it is necessary. Seldom does such a good opportunity occur for comparing the various kinds, and fruit trees should always be labelled for convenience of gathering and storing, so that the whole of each kind may be placed together, and also to assure accuracy when propagating. One of the best kinds of labels is made of sheet lead cut into strips, and the name punched into it by means of moveable type. The end of this must be long enough to roll round one of the smaller branches of the trees. These are not liable to damage the trees in any way, and are almost indestructible, but are not so easily found as the ordinary wooden label, and the latter answer well where only small quantities are required if time can be found to renew them when necessary. Labels attached by wire to the trees are almost certain to be neglected and to cause injury. For wire trellises and walls those made of zinc and inscribed with indelible ink are very



useful, as they can be fastened with wire without any fear of injuring the trees.

#### FRUIT FORCING.

**PEACHES AND NECTARINES.—Earliest House.**—The trees are at rest, and very bright and promising they are. The buds are not too large, an indication that they have not been over-developed, but are perfect, and will retain their hold on the trees. Through the roof lights having been removed some time the borders have been thoroughly moistened, and this, with the invigoration consequent on exposure, is the best safeguard against the buds falling. The trees must be pruned, dressed with an insecticide, and the whole of them thoroughly washed—the woodwork with soap and water, the glass with clear water, and the walls with limewash. The trees can also be tied to the trellis, everything forwarded, so that a start can be made without delay at the proper time. Let the lights remain off until the time of closing the house. If the lights are fixed the inside border must not lack moisture, and air must be given to the fullest possible extent, insuring thereby as complete rest as practicable under the circumstances.

**Second Early House.**—The trees have shed the foliage. Trees that have made strong wood, which takes more time to mature than the moderately vigorous, must not be exposed until the growths and foliage are well matured. Our roof lights have been removed. The exposure of the trees has an invigorating tendency; it insures perfect rest, and the rains do much to free them of insects, besides soaking the borders. When the foliage is all down the necessary pruning, dressing the trees with an insecticide and cleaning the house should be proceeded with, removing the surface soil down to the roots, and adding fresh material, but not covering the roots deeper than 2 or 3 inches. In the case of fixed roof lights watering may be necessary; under no circumstances must the trees be allowed to become dry at the roots.

**Midseason Houses.**—If the trees are in an unsatisfactory condition have recourse to lifting, the wood being firm and the foliage beginning to fall. It must be done with despatch, all the material's being in readiness. Provide efficient drainage, shorten strong roots, and bring any that are deep nearer the surface, employing the compost moderately firm. Good loam, rather strong, with an admixture of a sixth of old mortar rubbish will grow Peaches perfectly. If the soil be light add a fourth of clay marl, and if very heavy a similar quantity of road scrapings. If the soil is deficient in calcareous matter add a tenth of chalk. Avoid manure except at the surface. Give a good watering, and the roots will soon get established in the fresh compost. Trees judiciously treated at the roots whilst they have foliage seldom fail to set and stone the fruit satisfactorily.

Borders that have the surface a soapy mass and it is not possible to remove it may have a good dressing of quicklime quite an inch thick, mixing it with the surface soil as deeply as the roots allow without much disturbance.

**Late Houses.**—October Peaches are quite as much valued as those of May. They are fine in appearance, and when properly supplied with moisture and nutriment during the growing season the fruit is juicy and well flavoured. Sea Eagle is one of the best, large, showy, good flavoured, with a juicy melting flesh, free of the stringiness and meanness too prevalent in some late Peaches. As the wood in many late (especially unheated) houses is not too ripe, the house may be almost closed by day so as to secure a good heat, admitting sufficient air to insure a circulation, continuing the ventilation at night. Any trees that have too gross wood should have a trench taken out as deep as the roots, and about one-third the distance from the stem the trees cover of trellis, and left open for a fortnight, then filled in again firmly.

**MELONS.**—The end of the Melon season as regards those grown in frames and pits heated by fermenting materials is approaching, though fairly good fruit may be had up to November, especially of kinds that will keep some time. Some of our cross-bred sorts also keep well, particularly Scarlet Premier, which is one of the very best for late work. Any fruits approaching ripeness should be cut with a good portion of stem, and placed in a house with a gentle warmth, where they will ripen and be welcome additions to the dessert.

From houses a supply of fruit will be kept up some time longer, the latest fruits only swelling now. Sufficient moisture will be secured to this crop by damping in the morning and again early in the afternoon, affording water to the roots moderately; a supply once a week will be sufficient. All superfluous laterals must be cut out, so as to afford the principal foliage the benefit of the autumn sun. Plants with fruit approaching ripeness should be kept dry, and a brisk heat maintained with rather free ventilation, the temperature being kept at 65° at night, 70° to 75° by day, rising to 85° or 90° from sun heat, affording a little air at the upper part of the roof whenever the weather is favourable.

**CUCUMBERS.**—The latest plants which are to afford a supply of fruit about the new year should be placed out on ridges or hillocks, training with a single stem to the trellis, up which they may be allowed to advance about two-thirds, when the lead may be pinched. Those not having the convenience of a Cucumber house may secure fair supplies of winter fruit by growing the plants in pots or boxes, training the growths near the glass over the paths in stoves, fruiting, Pine houses, or other well-heated structures. Plants in bearing should not be overcropped, or the fruit allowed to remain longer than it is fit to cut, removing all deformed fruit in a young state. Maintain a night temperature of 70°, 5° less in the morning, 75° by day, up to 85° or 90° with sun, admitting a little air at the top of the house at every favourable opportunity. The evaporation troughs should still be charged with liquid manure, and

the floors damped with water about 8 A.M. and 4 P.M., dispensing with the syringe over the plants. Reduce the supply of water at the roots, but not so much so as to cause flagging. A little manure sprinkled on the beds occasionally will benefit the plants through the waterings washing their elements in the soil and the ammonia given off, but this must not be excessive or the foliage will be injured. Keep the foliage thin and the glass clean, so as to secure thoroughly solidified growth.

**STRAWBERRIES IN POTS.**—Where autumn and winter fruiting plants are grown they must without further delay be placed under glass, and on shelves, so that they may enjoy a free circulation of air, ventilating so as to dispel damp, as the fertilisation of the flowers is not satisfactorily effected in a moist atmosphere. Those swelling and ripening the fruit in frames should have moderate ventilation; and though the fruit will ripen in cold frames, they swell better and the flavour is improved in a house where there is a moderate degree of heat, 50° to 55° as a minimum, 70° to 75° as a maximum by artificial means, in which they should have air on all favourable occasions.

**Plants for Next Year's Fruiting are Late.**—The crowns are not well matured nor so strong as desirable. Those intended for early forcing should be placed on a base impervious to worms in frames, or cold pits, exposing them fully to every gleam of sun, employing the lights only to ward off heavy rains, and at night when frost prevails. Keep the remainder of the plants in a sunny position, as they will require every ray of light and sun's warmth to enable them to mature the crowns properly.

**PINES.**—*Plants Showing Fruit.*—These will be valuable when fruit is scarce and dear, therefore such plants should be afforded the best positions in the fruiting department. Maintain a temperature of 70° at night, 75° artificially by day, up to 85° to 90° with sun, closing at 85°, sprinkling the paths when their surfaces become dry and occasionally sprinkling the plants on fine afternoons. Keep the bottom heat steady at 85° to 90°. Examine the plants once a week for watering, and if any require it afford a copious supply of clear liquid manure at about the same temperature as the beds. Care must be taken not to over-water the fruiters, as that has a tendency to cause the fruit when cut to be black at the centre.

**Plants to Fruit Early.**—Queens are best for this purpose, but there is not always a certainty of their doing so unless they are given a period of comparative rest after making good growth. Plants intended to show fruit early in the year should be kept in a temperature about 65° in the daytime by artificial means, 60° at night, ventilating at 70°, closing at 70°, allowing the bottom heat to fall to 70°. Water the plants only when necessary, but do not allow them to become so dry as to cause the foliage to be limp.

**Young Plants.**—All young plants should now be arranged so as to obtain the fullest benefit of light and air. As the sun diminishes a corresponding diminution of temperature must take place at night until it reaches the winter standard of 55° to 60° at night, and 65° in the daytime. Ventilate freely whenever conditions are favourable, paying particular attention to watering. Examine the plants about once a week, and whenever one needs water give it copiously at about the same temperature as the bed.

#### PLANT HOUSES.

**Fuchsias.**—Place singly into 3-inch pots cuttings that are well rooted, and keep them close and shaded for a few days until they are established. They can then be gradually hardened and placed on a shelf where the winter temperature will not fall below 45°. All that is needed is to keep them slowly moving, so that they will be in good condition for starting into growth early next season. Plants that have flowered may be stood outside to harden and ripen until the approach of frost, when they should be sheltered from severe weather in a Peach house or vinery. These plants are better kept rather dry at their roots, and in case of heavy rains throw them on their sides.

**French and Fancy Pelargoniums.**—The latest flowering plants may be cut down without delay. Place the plants in a frame and syringe once or twice daily according to the weather until they break into growth. Those that are already established will be better on shelves where abundance of air can be given and where the plants will be close to the glass. In frames the atmosphere is often too moist for them, and they grow weakly and the foliage becomes spotted. The earliest should have their shoots pinched for the last time. Where special houses cannot be devoted to these plants the Strawberry shelves in Peach houses will be found a capital position. Any that needs potting must be attended to at once. The soil should consist of fibry loam, sand, and one-seventh of manure, pressed firmly into the pots. In addition we use a little soot and artificial manure, but very little of the latter at this period of the year. Cuttings inserted in outside borders may be well rooted, even if only callused they can be lifted and placed singly into 3-inch pots. If well rooted place them on a shelf and pinch out the points of the shoots. Let them have a cool position, as injury results from forcing them into growth by the aid of heat or a close atmosphere. Those that are not well rooted will do so quickly in a temperature of 50°, but as soon as roots are observed remove them to cool airy quarters. Water these plants with care, too much will ruin them at this season and throughout the winter months.

**Chrysanthemums.**—Make provision for housing them without delay, they are not safe outside after this date. Do not crowd the plants when placed under glass, and syringe the foliage freely at first. This is the only means by which the plants can be induced to retain their leaves to



the base. The change from the moist atmosphere at night, which they enjoy at this season of the year, is too great for them when placed under glass and subjected at once to the drier conditions of those structures. Select the plants, so that special treatment can be given them according to the time blooms are required. Those for very late flowering should be left outside, but arranged so that some protection can be given them in case of sharp frosts. A temporary structure, where blinds can be drawn over them at night, insures their safety for a long time. An open shed in which they can be placed at night and stood out again in the morning will also do very well.

Continue to feed the plants carefully, avoiding strong stimulants, they do more harm than good, and often burn the roots to such an extent that the flowers fail to develop properly. Keep the roots active until the last.

*Vallotas*.—These make a beautiful display at this season when grown in quantity. We find they succeed best when kept under glass the whole year round. After flowering they are returned to the greenhouse and stood amongst Azaleas. During the winter they are never allowed to become dry. They are equally as useful for decoration as Amaryllises, and well repay for care and good treatment. Keep the foliage clean, especially from thrips.

*Lilium candidum*.—Throw off the lights during favourable weather, but as soon as severe weather arrives place them where the temperature does not fall below 45°, and they will quickly commence to throw up their flower spikes. *Lilium Harrisii* is growing rapidly. These need some care to prevent them from drawing up weakly. Place them for the present in a light position in the greenhouse close to the glass, where they can enjoy air day and night when the temperature outside does not fall to freezing point. Stand them on some moisture-holding material, and do not allow them to become dry.

*Azaleas*.—Prepare the structure in which these are intended to be wintered. Clean the house thoroughly. Tie and regulate climbers that are on the roof; thin liberally where they have become crowded, so that light can reach the plants below. Wash the pots, and push on the tying of these plants where trained specimens are appreciated. It is a mistake to delay the completion of this work too long. If tied at once the shoots quickly assume a natural position again. Wash all plants in a solution of tobacco water if infested with thrips. Stand the plants on a moisture-holding base, and syringe them once or twice daily to keep their foliage clean and fresh. No treatment is more detrimental to Azaleas than a dry atmosphere.



## APIARIAN NOTES.

### PUNIC BEES.

I HAVE to modify my statement on page 295 that Punic bees are robbers. With my experience of them at the Heather, and after they were brought home, I was about wishing I had never been in possession of them, so great was the uproar among the bees. It was a puzzle to know which hive would succumb in the general battle. My attention was particularly turned to one hive, and from it to several others that had been subjected to an attack at the moors by the Punics. No time was lost in making an internal examination, when, to my surprise, every one of the attacked hives had unfertilised, or drone-breeding queens. These were at once removed, when order was promptly restored in the apiary.

It will be observed that this discovery does not differ materially from what "A Hallamshire Bee-keeper" has said about them. I am now convinced that instead of their being a disadvantage they are an advantage in the apiary, pointing out abnormal stocks, giving the apiarist a timely hint as to queenless colonies. The whole of the hives attacked had June-bred queens. The days suited for fertilisation were few, and there is little wonder that so many hives are at the present time useless on that account. Nor is that all, for we fear that 95 per cent. of prime swarms have changed their queens, and 50 per cent. of these are also either unfertilised, or are drone-breeders. Many of them have but few bees left.

Had I not been prepared with extra nuclei having young queens my stock would have been reduced 50 per cent. from what it was in the spring, and the bees reduced in each hive to a third. I never experienced a season so destructive to bees as it has been from March till October, nor have I ever witnessed such splendid

blooms of Clover and Heather, and so little honey gathered from them. Renfrewshire and Aberdeenshire appear to have been an exception in this all-through exceptional year; I know of some heavy yields of honey from both counties.

I have experienced seasons with less honey, but then the flowers were absent. Very few of my stocks require feeding, so we must hope on and try again; another season, it is to be hoped, will be a better one, and the country demands bees whether there be honey or not. Bee-keepers on reading the foregoing will do well for their own interest if they make a thorough examination of every stock, and see that they have a fertile queen of the current year, and the hives well supplied with ample stores. All hives should be made wind and water-tight, and covered so that a zero temperature will neither affect bees nor stores.

### CAN BEES BE IMPROVED?

I have been prompted to put this question, and to answer it in consequence of an article by Mr. G. M. Doolittle in an American paper, in which he says the common "black bee is a fixed race or variety," while "the Italian bee is nothing more than a hybrid." Now, Mr. Doolittle is wrong in saying the "Italian bee is a hybrid." It may be a cross, but that is very different from hybrid. I do not know how he can make out the Italian not to be a pure race, any more than trying to make out the common black bee the original one. It is as likely as not that there were variety in the honey bee from the earliest times. There is one thing certain, that all the varieties imported into this country have different markings and different traits in their characters.

Neither Mr. Doolittle nor any other person will ever be able to prove conclusively which is the pure race or which crosses. He argues as a proof that queens of the black race can be bred to a colour, but not so with Italians. My own experience is there is as much variation amongst the queens of the black race as in any other race or races. How he makes out that a "hybrid" can be improved and not a pure breed is beyond my comprehension. The Americans, with the assistance of dealers in this country and on the Continent, have managed by crossing to produce bright, almost all yellow, coloured bees, which they term "pure five-banded Italians," but they are neither more nor less than crosses between that bee and the Cyprians or Syrian bees. The first crosses of any variety may show improvement, and the Punic crosses are the best, but after the first cross we are never certain. Sometimes the after crosses are as good as the first, while from others there is a decided backward tendency.

### PREPARING FOR NEXT SEASON.

All hives should be overhauled. Where there is an excess of drone comb it should be removed, and frames filled with worker comb, taken from the condemned hives, substituted. All the frames containing drone comb, and those that are emptied of filled comb, should be cleaned, and filled with foundation forthwith, so as to be in place and in readiness for next season.

I observe that on page 234 Mr. Hooker recommends the cutting of the top bar through as "the most convenient way of fixing foundation in a satisfactory manner," and am glad to see that it has found its way into his "little book." The groove plan which I introduced is far superior, and gives the most satisfaction to all who have tried the different methods. Where the groove is used the top bars are stronger, neater, and easier kept clean and free from comb attachments.

To clean the wax from used frames lay them in front of the fire for a few minutes; when the wax softens scrape immediately, and run a bradawl through the groove. I sometimes use a tailor's goose for softening the old wax, it answers the purpose well. There is no danger of splitting the bar when there is a groove as when it is sawn right through. Then, with the groove the sheet drops easily into it, and is never warped, as is the case sometimes with sawn bars. Simply drop the sheet into the groove, previously



made perfectly straight and flat, then pour hot wax on both sides, keeping the frame at the proper angles to send the wax from top to bottom, and into the groove.—A LANARKSHIRE BEE-KEEPER.

### PUNIC BEES.

In the issue for October 1st "A Lanarkshire Bee-keeper" gives these bees in their purity an indifferent report for the season, although on the whole they have surpassed the stocks he compared them with. I think he has not exactly treated them fairly, for in all experiments with these bees it must be remembered that their natural months for rest is our summer, which is their winter. Next year, when they have become acclimatised, he will have a different tale to tell. Then, again, it has been a bad season to try them; no honey from early July, so that when the Heather yielded they began breeding. If "A. L. B. K." will take into consideration the extra young bees they have bred, and the honey used in producing them, the balance will be on the other side, as bad as it has been. Five imported queens refused to lay at all till the Heather opened.—A HALLAMSHIRE BEE-KEEPER.

### TRADE CATALOGUES RECEIVED.

Ketten Frères, Luxembourg.—*Catalogue of Roses.*  
Robert Veitch & Son, Exeter.—*Catalogue of Alpines, Perennial, and Border Plants.*



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Tea-scented Roses for Growing in Pots** (*J. M.*).—The following varieties will probably meet your requirements:—Niphet s, Safrano, Madame de St. Joseph, The Bride, Sunset, and W. F. Bennett. They are free bloomers and good in bud, forcing well.

**Gladioli in Pots** (*G. P.*).—Gradually withhold water, and when the foliage turns yellow turn the plants out of the pots, shake away all the soil, and place the corms in a dry airy place to dry; then place them in drawers, where they will be safe from frost until spring, when they may be repotted and grown as in the previous year.

**Southern Markets** (*B. A.*).—The towns named by you are well supplied with all kinds of flower, fruit, and vegetable produce, and their markets are not so good upon the whole as those of the great towns of the Midlands and the North. Southern growers send much of their produce to the great manufacturing centres, more being grown than can be profitably disposed of near home. This you must bear in mind; also that competition is keen everywhere, and will become keener, success only resting with those having the best practical knowledge, business capacity, and enterprise, so as to produce at the cheapest rate a superior article.

**Nectarines Eaten by Ants** (*G. L.*).—The best means of destroying ants is by poison, and of those the arsenical solution to be presently named is very efficacious; but it must be used with the utmost caution, as it is fatal to animal life. White arsenic half an ounce, place in an old iron pot with a pint of water, and then boil until reduced to half a pint or little more of liquid, then add 4 ozs. of coarse sugar, and stir well. Place portions of this mixture in saucers in the haunts of the ants. They will eat it and die. Another plan is to lay a quantity of partially picked boiled bones in the haunts of the ants. They will soon be covered with ants, when throw the bones into hot water. Before laying the bones down again let all superfluous moisture drain off. This is a safe, cheap, and very effectual remedy.

**Keeping Apples** (*W. R. R.*).—"A perfectly dry wine cellar of very even temperature, but quite unventilated," would answer well

for storing and keeping Apples, provided it is perfectly sweet through limewashing the walls and cleansing the floor. If the cellar is musty the quality of the fruit would be impaired. Ventilation is not essential to the keeping of fruit, as you may easily prove by wrapping some Apples in tissue paper and placing them in a close sweet box, allowing others of the same variety to remain on a shelf in some ventilated room. Those from which air is excluded will keep much the longer if the variety is a late one, and longer also if early, though in this case the difference, for obvious reasons, is less marked. Your other question will have attention.

**Woodlice and Mushrooms** (*J. R. N.*).—A postcard reply was sent to the address you gave, and if this was insufficient the card would not reach you. If you have no use for the old litter burn it, and in that way you will "prevent accumulations." We are not aware that woodlice injure Mushroom spawn either "during fermentation or afterwards," but they enjoy Mushrooms and often do injury to the crops, especially when the beds and litter are dry in houses and sheds; when moist outdoors little harm is done. The most effective way of dealing with woodlice in Mushroom beds that we have seen is entrapping them between dry dirty old boards, placed face to face under the litter, as described on page 116 of the sixth edition of "Mushrooms for the Million." You may see how to prepare arsenic in our reply to "G. L."

**Proliferous Ferns** (*G. E. C.*).—The Fern you describe as producing a number of little plants along the midrib of each frond is probably *Polystichum proliferum*. When the frondlets are half an inch long or so, the portions of the fronds bearing them, if pegged down in a free mixture of leaf soil, peat, a little loam and sand, or even cocoa-nut fibre refuse, and kept moist in a box, such as a biscuit box, and a square of glass laid across to exclude air, will be kept fresh for supporting the "little plants" till they form roots. If not kept close and moist as suggested the fronds are apt to wither in a room window and the frondlets perish. You may try some now, and if they fail try others next summer when the weather is warmer, but they must be shaded from the sun. It is scarcely fair to send an inferior Pear to be named when you have "several larger and better." We can only say the variety is possibly Louise Bonne of Jersey, a free-bearing excellent October Pear, worth planting, though the fruit does not keep very long.

**Mushroom Bricks Spawning** (*W. H. W.*).—The right condition to have the bricks for spawning is barely half dry, effecting this by standing them edgeway similar to ordinary clay bricks preparatory to burning, turning them occasionally, and having them under cover. After spawning, the bricks are placed on a floor in a shed or house with a little straw beneath, and close together on edge, except that a few straws are placed between the bricks. They are covered with sweet hay or soft straw, and, if necessary, enough fermenting material to raise a gentle heat of 75° to 90°; but in summer this is not necessary, though some practise it to insure the speedy and certain running of the spawn. Care must be taken not to have the fermenting materials too hot, and not too moist; all that is wanted is a gentle warmth and enough moisture in the bricks to insure the spread of the spawn. Are you sure the spawn from the haystack bottom is the proper kind and in right condition?

**Flower Garden Designs** (*Flower*).—There are as many plans and designs for bedding in Cole's "Royal Parks and Gardens of London" as in any cheap work we know. It can be had for 2s. 11d. by post from this office. It contains much information on propagating different kinds of plants and other appropriate matter. We have no recollection of the Australian seeds, and all letters received more than a week ago have been answered. We are always glad to receive your notes, and if they are not inserted immediately you must not think they are on that account lightly regarded. Light sketchy notes, as well as what you describe as "weighty" articles, are equally acceptable when suitable for publication. Some of the heavy brigade order arrived by the same post as yours, but cannot be inserted this week, as the printers had more than enough matter in hand for filling the pages. The articles, however, like your notes, lose nothing by the delay, and are worth waiting for.

**Muscat Grapes Spotted** (*Ten-years Subscriber*).—The remarkably fine berries, over 1 inch by nearly 1½ inch in diameter, are affected with spot. This is caused by a fungus known as *Gloeosporium leucolor*, which seems powerless to penetrate the skin of the Grapes by its spores (germinal tubes) until they are rendered tender, if not actually decomposed by moisture resting upon them. Hence we find the berries most affected on the upper part of the bunches, on the upper side of the berries, and at their base. There is no remedy, but it may generally be avoided by pursuing a course of treatment, which gives density to the surface by judicious ventilation and a moderate amount of atmospheric moisture, especially at night, much moisture has a weakening tendency. The disease does not affect the Grapes generally until the transformation of the juices takes place in ripening, and it is very common in Grapes that have hung some time, and are undergoing acetous fermentation. We can only recommend a gentle warmth in the pipes and a little air constantly so as to prevent the deposition of moisture on the berries. Remove the affected berries and burn them.

**Plum Trees "Cankered"** (*J. B.*).—Plum trees never canker in the sense applied to Apple and Pear trees, but they are very liable to a similar disease—namely, gumming. The trees evidently make too



vigorous growth, and do not mature it properly, therefore the wood is injured by frost. Nothing will help the trees in those respects, except a firmer soil and a dressing of clay marl, so as to harden their tissues. Indeed clay and calcareous matter are essential to the health and profitable bearing of some varieties of Plums. A dressing of quicklime could not be other than beneficial, applying 10 tons per acre, or surface dressings of steamed bone meal 5 cwt., and kainit 2 cwt., mixed, per acre, would tend to promote a sturdier growth and firmer tissues, applying the mixture in autumn, or, as your soil is light, in February. We have found Victoria and Diamond Plums anything but hardy in most localities, which also seems to be your experience, and they certainly ought not to be grown where they do not succeed. Prince Engelbert is a valuable Plum for cold localities, but it is not nearly so great a market favourite as Victoria, which requires good treatment and favouring climate. It ought to succeed fairly well in your locality with phosphatic manure, but the question is, Is it hardy enough? Of that you only can form a right conclusion. Rivers' Prolific Plum does not succeed in all soils, and in light soils sometimes succeeds admirably. The Czar, however, is a better grower and crops heavily, the fruits being in request, and it may be said to be the best general early Plum for market. Mitchelson's, a large Damson-like Plum, is very prolific and hardy, and Gisborne's, an oval yellow Plum with red spots, does well in cold localities, and is a fine market kind.

**Animal Matter as Manure (F. S.).**—Certainly carry out your proposal, and if you blend the matter well with plenty of soil you need not add lime, and you will in due time have a rich compost. Relative to the chemical constituents of animal matter and blood, the following citation from Johnson's "Gardeners' Dictionary" will answer your inquiry:—Animal matters, without any exception, are beneficial as manures, for they all yield, during putrefaction, gases and soluble substances, that are imbibed greedily by the roots of plants. That this is the case affords no cause for wonder, because animal matters and vegetable matters are alike compounded of carbon, hydrogen, oxygen, and nitrogen, with a small addition of saline matters. Blood is a very rich manure, and has been applied with especial benefit to Vines and other fruit trees. The blood of the ox contains about 80 per cent. of water, and 20 per cent. solid matter. The latter contains, in 100 parts, when dried—

Carbon	...	...	...	...	...	51.950
Hydrogen	...	...	...	...	...	7.165
Azote	...	...	...	...	...	17.172
Oxygen	...	...	...	...	...	19.295
Ashes	...	...	...	...	...	4.418

The ashes contain various salts, as chloride of sodium (common salt), phosphate of lime, with a little oxide of iron.

**Gardeners' Mutual Improvement Society (W. J. B.).**—The first matter to be considered is the need of such society, and the probability of its success. Of the first there can be no question, but whether there are sufficient gardeners in your locality within reach of a given centre, and who would attend meetings and give aid in reading papers, taking an interest in the society, and giving it hearty support, you only can form an opinion. If satisfied on that point you must secure approval and patronage of your employer, and solicit his aid in respect of other proprietors of gardens. A room will be required, and that must be well lighted and properly warmed. We may suggest a schoolroom or other room not under any restrictions as regards religion and politics. These you must rigidly exclude, so that all can meet with unbiassed minds to discuss purely horticultural matters. Secure therefore the patronage of the gentry, clergy, and all ministers, as well as other influential persons. Let it be known that they are honorary members, subscribers of so much a year for the benefit of farmers and cottagers desirous of adding to their incomes, and improving the economy of their households by fruit culture and horticulture generally. This will enable you to meet incidental expenses, and it would help much in the establishment of the society were circulars sent round indicating the character of the intended work. Then members will be required, competent teachers of horticulture to form a committee, some good at organisation, all paying a small sum annually in advance as a guarantee of expenses incurred. You will need a president, vice-presidents, patrons, and as many members as practicable, with a committee and a secretary. To inspire confidence you will need an auditor (say the schoolmaster) and a treasurer (say the doctor). Then arrange for meetings, send out circulars and invitations to farmers and cottagers to attend and hear papers read, questions asked and answered, with free discussion. A chairman will be required at each meeting, and if you could arrange to bring to your midst occasionally a lecturer in connection with the British Fruit Growers' Association zest would be given the undertaking. We heartily wish you success, for fruit growing might be pursued with great advantage in the rich valleys of North Wales. True, many of them have been overspread with glacial detritus, and in this case the soil has suffered. In many cases, indeed most, especially in the lovely Vale of Clwyd, Denbighshire, the new red sandstone has been commingled with the glacial detritus, and the result is a very fertile soil, and there are numerous tracts in other valleys that consist of reddish soils, in which orchard trees invariably thrive, and there is no reason why Denbigh and other counties of Wales should not rival in Apples and Pears those grown by the trias of Devon and Gloucester, or even the old red of Hereford.

**Names of Fruits.**—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. —(J. H.).—1, Glout Morceau; 2, Knight's Monarch; 3, Gansel's Bergamot; 4, Not known; 5, Maréchal de Cour; 6, The shrub is Hibiscus syriacus, commonly called Althæa frutex. (W. S.).—Greenup's Pippin, a Lancashire Apple. (J. G.).—1, Souvenir du Congrès; 2, Marie Louise; 3, Beurré Diel; 4, Chaumontel; 5, Apple not known; 6, Van Mons Léon Le Clerc. We shall inquire about the letter. It must have miscarried. (F. K.).—1, Cox's Pomona; 2, Mère de Ménage. (Stour Valley).—1, Suzette de Bavy; 2, Maréchal de Cour; 3, Comte de Flandre; 4, Beurré Sterckmans; 5, Flemish Beauty; 6, Not known. (George Heskett).—Doyenné Boussoch. (W. M. E.).—The Apple is Lewis's Incomparable, a fine fruit, but rather pale in colour. (Faie).—A, Dredge's Fame; B, not in condition; C, possibly Manks Codlin; D, Winter Calville; E, Cellini. Your trees are infested with scale. (G. M.).—2, Striped Beeching; 4, Lord Derby; 5, Nouveau Poiteau; 6, Beurré Diel. (H. E. M.).—1, Beauty of Kent; 2, Gravenstein; 4, Blenheim Pippin.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. N. H. P.—1, Polygonum Bistorta. 2, Saponaria officinalis.

#### COVENT GARDEN MARKET.—OCTOBER 7TH.

HEAVIER supplies of Cobs. Trade brisk.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, $\frac{1}{2}$ -sieve .. ..	1	0	to	3	Oranges, per 100 .. ..	4	0	to	9
Cobs, Kent per 100 lbs. ..	35	0		0	Peaches, per doz... ..	1	0		6
Grapes, per lb... ..	0	6		1	Pums, $\frac{1}{2}$ -sieve .. ..	0	0		0
Lemons, case .. ..	15	0	20	0	St. Michael Pines, each..	3	0		8

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus, per bundle ..	0	0	to	0	Mushrooms, punnet ..	0	8	to	0
Beans, Kidney, per bush.	1	0	2	0	Mustard & Cress, punnet	0	2	0	0
Beet, Red, dozen ..	1	0	0	0	Onions, bunch ..	0	3	0	5
Carrots, bunch ..	0	4	0	0	Parsley, dozen bunches	2	0	3	0
Cauliflowers, dozen..	2	0	3	0	Parsnips, dozen ..	1	0	0	0
Celery, bundle ..	1	0	1	8	Potatoes, per cwt. ..	3	0	4	0
Coleworts, doz. bunches	2	0	4	0	Salsafy, bundle ..	1	0	1	6
Cucumbers, doz. ..	1	0	2	6	Scorzoneria, bundle ..	1	6	0	0
Endive, dozen ..	1	3	1	6	Shallots, per lb. ..	0	3	0	0
Herbs, bunch ..	0	3	0	0	Spinach, bushel ..	2	0	0	0
Leeks, bunch ..	0	2	0	0	Tomatoes, per lb. ..	0	2	0	4
Lettuce, scara ..	0	9	1	0	Turnips, bunch ..	0	0	0	4

#### AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms not plentiful in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to 6	0	Maidenhair Fern, dozen				
Asters, doz. bunches ..	4	0	6	0	bunches .. .. .	4	0	to 9	0
" (French) doz. bchs.	9	0	12	0	Marigolds doz. bunches ..	1	0	2	0
Bouvardias, bunch ..	0	6	1	0	Mignonette, 12 bunches ..	1	6	3	0
Carnations, 12 blooms ..	1	0	2	0	Myosotis, dozen bunches	2	0	4	0
Carnations, doz. bunches	4	0	6	0	Pelargoniums, 12 bunches	4	0	9	0
Chrysanthemums, dozen					" scarlet, 12 bchs	3	0	6	0
bunches .. . . .	4	0	9	0	Primula (double) 12 sprays	0	6	1	0
Chrysanthemums, dozen					Pyrethrum, doz. bunches	2	0	4	0
blooms .. . . .	0	9	3	0	Roses (indoor), dozen ..	0	6	1	6
Dahlias, doz. bunches ..	2	0	4	0	(mixed), doz. bchs.	2	0	6	0
Eucharis, dozen .. ..	2	0	4	0	" Red (English) per				
Gardenias, per doz. . .	1	6	4	0	dozen blooms ..	0	9	1	0
Gladolus, dozen bunches	4	0	8	0	" Tea, white, dozen ..	1	0	2	0
" per 100 spikes	8	0	10	0	" Yellow, dozen ..	2	0	4	0
Lapageria, 12 blooms ..	1	0	3	0	Sweet Peas, doz. bunches	2	0	3	0
Lilium longiflorum, 12					Tuberose, 12 blooms ..	0	3	0	6
blooms .. . . .	3	0	5	0	White Lilac (French) per				
Lilium (var.) doz. blooms	1	0	3	0	bunch .. . . .	5	0	7	0
Marguerites, 12 bunches	2	0	4	0					

#### PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Aralia Sieboldi, dozen ..	6	0	to	12	0	Ficus elastica, each. . .	1	6	to 7	0	
Arbor Vitæ (golden) doz.	6	0		12	0	Foliage plants, var., each	2	0		10	0
Asters, dozen pots ..	3	0		6	0	Fuchsia, per doz. . .	4	0		6	0
Begonias (various), doz.	4	0		9	0	Heliotrope, per doz. . .	4	0		6	0
Cacti Plants, per dozen ..	6	0		12	0	Hydrangeas, per doz. . .	0	0		0	0
Chrysanthemums, per doz.	4	0		9	0	Lilium, various, doz. . .	18	0		20	0
" large, doz.	12	0		24	0	Marguerite Daisy, dozen	6	0		12	0
Coleus (various), per doz.	3	0		6	0	Mignonette, per dozen ..	3	0		6	0
Dracæna terminalis, doz.	24	0		42	0	Myrtles, dozen . . .	6	0		12	0
" viridis, dozen ..	12	0		24	0	Palms, in var., each. . .	2	6		21	0
Euonymus, var., dozen ..	6	0		18	0	Pelargoniums, per doz. . .	6	0		9	0
Evergreens, in var., do. en	6	0		24	0	Pelargoniums, scarlet, doz	2	6		4	0
Ferns, in variety, dozen ..	4	0		18	0	Solanum, per dozen . .	9	0		12	0





### LABOUR MIGRATION.

PERHAPS one of the most remarkable results of the agricultural depression is the steady migration of farm labourers from their native villages to the already overcrowded centres of population, in search of employment for the means of bare subsistence denied to them in the country from stress of circumstances and nothing else. Certain of our legislators affect to be puzzled by this state of things, and we have heard of proposed commissions and special inquiries, but surely no sensible man giving heed to what is going on around him can long be at a loss for a cause which is so apparent and so very real?

It is simply a case of supply and demand. One of the first laws of Nature is self-protection, and the farmer who from the low prices of farm produce becomes straitened in means cannot afford to employ so much labour as of yore, and so the young men have to go; aye, and the middle-aged men too in many an instance. In the instance given a week or two ago of the reclamation of a farm of 400 acres, all the labourers, except those required for tending live stock, were discharged. There was a terrible outcry at the next meeting of the local board of guardians about so many able-bodied men coming upon the union for means of subsistence, but we were prepared for that, and most of the men went away eventually. All this may sound very cruel and heartless, but we repeat self-preservation is the first law of Nature, and for a farmer to go on paying for labour with money which he cannot afford is positively dishonest; because in the end it will land him in bankruptcy, and others will have to suffer loss through his sentimental folly. Really! to read some of the advice given to farmers about their duties to the labourer one would suppose the farmer to be a large hearted philanthropist, whose duty it is to sacrifice himself for the good of his workmen.

Take the other side if you will, the workman's side, and see if there is much to tempt him to cling to the land. In the great corn-growing district of East Anglia his ordinary rate of pay is 9s. per week, of which 1s. has to be left as rent of the cottage he and his family occupy. Can one wonder that the underfed man is a poor workman? Can we wonder at the pallid pinched face of his wife, or the rickety appearance of his children? Of course there is haysel and harvest to afford a little extra money. Our remedy in that district has been to place as much piece-work in the men's hands as we could, so as to give them a chance to earn a fair wage. Hodge's weak point, when he finds himself earning more money than hitherto, is beer. There are some good, thrifty men who do not give way, we have some in our employ at the present time, but the majority will have the beer, and with them nothing short of drunkenness is enough. Publicans are forbidden to draw beer for a man who has evidently more than is good for him; but it comes within our recent experience that in the inns of quiet country villages men habitually become roaring drunk without any interference whatever.

If under the scheme of technical education teachers appointed by county councils can induce habits of self-respect, self-denial, and thrift, by showing the working man how to turn his spare time to profitable account a great work will be done. It will have to be done chiefly at the centres of population, for nothing can check the steady flow of the labourer to the towns. But a glance at the suburbs of such towns as Nottingham and Leicester will show how highly such information will be appreciated by the hundreds and thousands of holders of allotments and garden plots.

When the depression fell upon agriculture great was the outcry

about the burdens of tithes, rates, and taxes upon the land; the hardship of the case was so palpable that the question was often asked, Ought not commercial men to share our burden? They met the proposal with scorn, but what has happened? The labourers have gone to the towns, and have not only to be kept going somehow, but the town and suburban poor rates have mounted up till what with most exorbitant poor rates, highways rates, sanitary rates, and free education, a man has to pay precious dear for the privilege of residing in or near a British town. That is all right. There is a hidden law of Nature always working quietly to set right all great wrongs. There may be, there generally is, much suffering before right is done, but the end is inevitable.

What, we would ask, would anyone do with the people if they could get them back upon the land? A system of *petite culture*? No, thank you. The British workman of the future is not to be brought down to the level of a graveling French *paysan*; he would not submit to it. Again we say the matter long ago resolved itself into a question of supply and demand, and depend upon it it will remain so.

### WORK ON THE HOME FARM.

Glorious weather as we write, a brisk wind from the west, bright sunshine, and dust flying plentifully before the traffic on the public roads. Do not waste a day, do not waste an hour of the golden opportunity to clean and prepare the soil for winter corn or winter weather. It is our local market to-day, and sorry indeed we are to see the road alive with traffic. How heartily do we wish the worthy farmers could afford to keep at home, to stick to the land, and bide their time for a sale. No farmer having a small farm of say 100 to 200 acres ought to look on at the ploughing or any work, but he ought to play first fiddle in all of it: mind that. It is the looking-on so much that has brought ruin to so many farmers. One of the kindest-hearted, best-natured men we know, was a yeoman farmer of some 150 acres to whom the depression brought ruin, yet it never appeared to enter his head to hold a plough or do any regular labour which might tend to help him, and so he went under. The masters' eye and hand tell always, but now especially should they be upon the work early and late.

Next spring will come the usual complaint of arrears of work, of wet seed beds and so forth, simply because the fine weather for autumn tillage which we have now was not turned to account. Our readers can have no excuse, for they have had a weekly reminder lately, and we hope they have acted upon it.

Look closely to the live stock. The nights grow cold, October is here, soon we may have heavy rainfall, and all stock exposed to it will suffer more or less from exhaustion. Have the yards and hovels ready, with an ample store of plenty of dry litter, and let the stock have the full benefit of it. Have you got the young stock quite free from hoose? If not, pray do not suffer the poor animals to continue suffering from a disease which is so exhaustive, and for which the remedy is so simple and so sure. If our warning to keep in the calves has not had attention, see that this is done forthwith. Have your live stock thoroughly in hand, and let no disease or loss arise through any inattention on your part. Let prevention be your policy as regards every form of disease. Be very cautious about any new purchases, and keep them quite apart from other stock till they prove to be quite sound. If this were only done generally, we have no doubt at all about infectious diseases being stamped out. Carelessness and filth unfortunately still prevail, so does swine fever.

### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.					Rain
1891. September and October.		Baro- meter at 32° and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
			Dry.	Wet.			Max	Min.	In sun.	On grass.		
		Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.	
Sunday .....	27	29.95	56.8	54.8	W.	55.5	64.0	49.6	105.4	41.7	—	
Monday .....	28	30.195	56.6	54.2	S.W.	54.8	67.9	45.8	110.5	40.6	—	
Tuesday .....	29	30.018	58.3	55.9	S.	54.7	69.7	49.9	109.2	41.9	0.010	
Wednesday .....	30	29.938	55.9	52.3	S.W.	55.8	67.2	52.1	109.2	46.4	0.041	
Thursday .....	1	29.626	61.6	58.2	S.	56.1	64.6	56.1	92.2	53.1	0.454	
Friday .....	2	29.883	49.9	47.3	S.W.	55.4	61.6	43.1	104.0	39.2	—	
Saturday .....	3	30.240	49.1	47.2	S.S.W.	53.8	62.0	40.0	94.6	35.9	—	
		29.982	55.5	52.3		55.2	65.3	48.1	103.7	43.1	0.505	

### REMARKS.

27th.—Bright till 11 A.M., cloudy at times after.

28th.—Bright and warm.

29th.—Generally bright and warm, but frequently cloudy after 4 P.M.

30th.—Bright fine day; cloudy evening; rain at night.

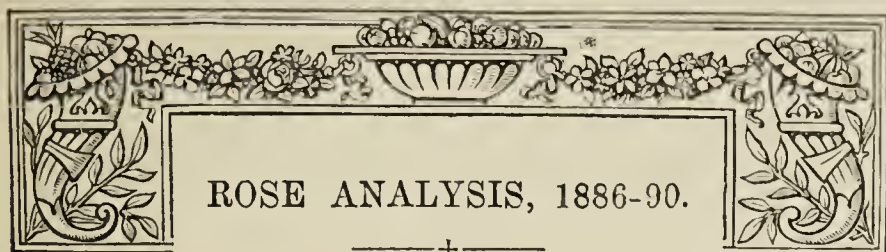
1st.—Dull and showery early; fine from 8.30 A.M. to 2.30 P.M., then continuous heavy rain till 8 P.M., and fair after.

2nd.—Brilliant and fresh.

3rd.—Clear and cool.

moderately fine week. Temperature slightly above the average.—G. J. SYMONS.





## ROSE ANALYSIS, 1886-90.

YEAR by year the different varieties tabulated in these analyses are gradually settling down into their relative true positions. The present lists are based upon data obtained from the last six leading Exhibitions of the National Rose Society. Another forward season like those of 1889 and 1890, was however this year wanted to keep the balance true between the early and late varieties; instead of which we rosarians had unfortunately to contend against one of the most backward summers of the series, and to make matters worse the date on which the Society's Metropolitan Exhibition was held happened to be rather earlier than usual. A backward season does not so much unduly favour the earlier kinds of Roses as place at a disadvantage those which come into flower somewhat late in the summer. For instance, A. K. Williams and Sénateur Vaisse, taking into consideration the total number of H.P.'s tabulated each year, were this year shown only about an average number of times, while a still earlier variety than either, Lady Mary Fitzwilliam, was not nearly so frequently staged as at the two previous shows when the seasons were so much more forward; whereas some of the later flowering kinds, like Ulrich Brunner, Merveille de Lyon, and Louis Van Houtte, have never since 1886 been so poorly represented.

For the purpose of this analysis the names of over 11,000 Rose blooms have been tabulated in all—the number of Hybrid Perpetuals and of Teas and Noisettes in each year being as follows:—

	1886	1887	1888	1889	1890	1891
Hybrid Perpetuals ...	1038	1130	1247	1176	1396	1184
Teas and Noisettes ...	509	642	854	778	631	662
	1547	1772	2101	1954	2027	1846

The above figures do not indicate, as in the case of the Dahlia and Chrysanthemum analyses, the actual extent of the different shows, but simply the number of names that have been taken down each year from the different prize stands.

The Hybrid Perpetuals which were exceptionally well shown at the Crystal Palace this year were Madame G. Luizet, La France, Charles Lefebvre, Duke of Edinburgh, Comtesse d'Oxford, Prince Arthur, Marquise de Castellane, Dr. Andry, E. Y. Teas, and Ferdinand de Lesseps. Among those scantily represented, considering the positions they occupy on the list, may be mentioned: Marie Baumann, Ulrich Brunner, François Michelin, Merveille de Lyon, Her Majesty, Louis Van Houtte, Marie Rady, Baroness Rothschild, and Camille Bernardin.

If the present analysis be compared with that of 1886 it will be found that the following Roses have already disappeared entirely from the list—viz., Madame Laeharme (at one time considered such a great acquisition as a white H.P.), Annie Laxton, Annie Wood, Edouard Morren, Lord Macaulay, Penelope Mayo, Boildieu, John Stuart Mill, Souvenir de la Malmaison (B), Mrs. Jowitt, and Nardy Frères. In the place of these varieties we find on this year's list such valuable acquisitions as Mrs. John Laing (No. 3), Her Majesty (No. 11), Earl of Dufferin (No. 38), Viscountess Folkestone (No. 40), and Victor Hugo (No. 44); and of the established varieties quite low down on the list Duchesse de Morny, Auguste Rigotard, and Comtesse de Serenye. Of the fifty-seven Hybrid Perpetuals which both lists contain in common there

are only three, and those light coloured varieties, which show any decided signs of declining in favour as exhibition Roses, and these are Marie Cointet, Marguerite de St. Amand, and Comtesse de Serenye.

It almost invariably takes five years after its first introduction before a new Rose can be placed in this analysis on anything like the same footing as the established varieties. In other words, until this period has elapsed it is seldom that a sufficient number of plants of any new kind are grown by exhibitors generally to allow of its being adequately represented at "the National." In the accompanying tables therefore, as in former years, the positions of all the newer sorts depend upon their averages for five, four, three, or two years, as the case may be, still newer sorts being placed according to the number of times they were staged at this year's Exhibition only.

Of the newer H.P.'s mentioned in last year's analysis, Viscountess Folkestone, sent out in 1886, has improved slightly this year on its previous position. Although one of the most charming of all "garden" Roses it will, I fear, never take a high position as an exhibition variety, owing to the looseness of its petals and their frequent roughness at the edges. Mrs. John Laing, although first introduced only four years ago, now occupies the third place on the list. Last year it was only second to the leading flower—Madame G. Luizet. This loss of one place is, however, not due to this variety being less frequently shown in 1891 than in 1890, but rather to the fact of La France, which was more numerous staged than any other Rose in the Exhibition, being in such superlatively good form, and thus supplanting it. Earl of Dufferin, distributed in the same year as Mrs. J. Laing, has fallen from No. 24 to No. 38; but in so backward a season this late-flowering kind had scarcely a fair chance of showing what its capabilities might be under average conditions. Lady Helen Stewart, another 1887 Rose, which appeared at the end of last year's analysis, does not find any place in this one. Sir Rowland Hill is also absent from the present analysis. Although there are now no fewer than sixty-six Roses in the table of Hybrid Perpetuals, there is not among them a single variety of foreign introduction with a later date against it than 1884—Victor Hugo, at No. 44.

Catherine Mermet still heads the list of Teas and Noisettes, and at the present time holds the premier position without any serious rival, although this year staged but an average number of times. Innocente Pirola, on the other hand, only just manages to retain the second place in the analysis with great difficulty, never before having been so seldom shown. Souvenir d'Elise, Madame Cusin, Souvenir de P. Neyron, and Madame Margottin were also less frequently staged than at any of the preceding five Exhibitions. Maréchal Niel and Madame Lambard were also poorly represented; indeed, the only Teas which appeared in unusual strength were the Hon. Edith Gifford, Madame Bravy, Princess of Wales, and Devoniansis.

Referring back to the 1886 analysis as we have previously done with the Hybrid Perpetuals we no longer find on our present list Belle Lyonnaise, Madame Wellehe, Jean Pernet, Perle des Jardins (how much a really good and dependable yellow Tea Rose is still wanted!), and David Pradel. Their places are, however, taken by such choice new comers as The Bride (No. 5), Souvenir de S. A. Prince (No. 21), Madame Hoste (No. 27), Cleopatra (No. 31), and one established variety Madame A. Jacquier (No. 32), the first three of which at all events are far superior to any of the varieties they have superseded. Next year we shall, I hope, be able to add to these Ernest Metz, an extremely promising new Tea. The only varieties on this year's analysis which show any marked signs of decline as exhibition Roses are Madame Willermoz, Souvenir de P. Neyron, Madame H. Jamain, and Madame Margottin.

We have four new Tea Roses on the list. The Bride sent out in 1885, which, although still at No. 5, is destined, I think,



to take even a still higher place as years go on. 1887 is represented by Madame Hoste. This variety has also not improved upon its last year's position. Souvenir de S. A. Prince, distributed in 1889, has, however, risen from No. 25 to No. 21, and will no doubt sooner or later take a more prominent place in the analysis. The fourth, Cleopatra, an 1889 Rose, secures a place at No. 31. At present

there are only four Teas on the whole list which were raised in the British Isles—Souvenir de S. A. Prince, Princess of Wales, Devoniensis, and Cleopatra.

My best thanks are due to those rosarians who by their kind assistance in taking down the names of the Roses at the Show have rendered this analysis possible.

## HYBRID PERPETUALS.

Position in Present Analysis.	Average Number of Times Shown in the Six Years.	Number of Times Shown in 1891.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	38.3	45	Madame Gabriel Luizet .....	1877	Liabaud .....	Light silvery pink
2	37.2	48	La France .....	1867	Guillot .....	Silvery rose
3	34.0	34	Mrs. John Laing .....	1887	Bennett .....	Light pink
4	33.8	36	A. K. Williams .....	1877	Schwartz .....	Bright carmine red
5	32.0	26	Marie Baumann .....	1863	Baumann .....	Soft carmine red
6	31.7	20	Ulrich Brunner .....	1881	Levet .....	Cherry red
7	25.5	13	François Michelon .....	1871	Levet .....	Deep rose
8	24.8	13	Merveille de Lyon .....	1882	Pernet .....	White
9	24.0	28	Captain Christy .....	1873	Lacharme .....	Delicate flesh
10	23.8	29	Charles Lefebvre .....	1861	Lacharme .....	Purplish crimson
11	23.0	15	Her Majesty .....	1885	Bennett .....	Pale rose
12	22.3	20	Alfred Colomb .....	1865	Lacharme .....	Bright carmine red
13	21.3	21	Etienne Levet .....	1871	Levet .....	Carmine rose
14	20.7	18	Lady Mary Fitzwilliam .....	1882	Bennett .....	Rosy flesh
15	19.7	11	Marie Finger .....	1873	Raimbaud .....	Light salmon rose
16	19.3	12	Louis Van Houtte .....	1869	Lacharme .....	Deep crimson maroon
17	19.2	24	Duke of Edinburgh .....	1868	Paul & Son .....	Scarlet crimson
18	18.7	7	Marie Rady .....	1865	Fontaine .....	Bright carmine red
19	18.3	13	Marie Verdier .....	1877	E. Verdier .....	Pure rose
20	18.0	29	Marquise de Castellane .....	1869	Pernet .....	Clear cherry rose
21	17.8	22	Comtesse d'Oxford .....	1869	Guillot .....	Carmine violet
22	16.5	19	Prince Arthur .....	1875	Cant .....	Bright crimson
22	16.5	17	Xavier Olibo .....	1864	Lacharme .....	Dark velvety crimson
23	15.8	6	Baroness Rothschild .....	1867	Pernet .....	Light pink
24	15.3	12	Horace Vernet .....	1866	Guillot .....	Purplish crimson, shaded
25	14.8	20	Dr. Andry .....	1864	E. Verdier .....	Bright crimson
26	14.5	19	Dupuy Jamain .....	1868	Jamain .....	Bright cerise
27	14.2	7	Camille Bernardin .....	1865	Gautreau .....	Light crimson
28	13.7	20	Ferdinand de Lesseps .....	1869	E. Verdier .....	Shaded crimson
28	13.7	16	Heinrich Schultheis .....	1882	Bennett .....	Delicate pink rose
29	13.5	18	E. Y. Teas .....	1874	E. Verdier .....	Bright carmine red
30	13.1	7	Duke of Wellington .....	1864	Granger .....	Vivid crimson, shaded
31	13.0	7	Beauty of Waltham .....	1862	W. Paul & Son .....	Rosy crimson
31	13.0	17	Duchesse de Vallombrosa .....	1875	Schwartz .....	Pale flesh
32	12.8	19	Général Jacqueminot .....	1853	Rousselet .....	Bright scarlet crimson
33	12.2	16	Abel Carrière .....	1875	E. Verdier .....	Crimson maroon
33	12.2	16	Duke of Teck .....	1880	Paul & Son .....	Crimson scarlet
34	11.8	4	Le Havre .....	1871	Eude .....	Vermilion red
34	11.8	16	Pride of Waltham .....	1881	W. Paul & Son .....	Light salmon pink
35	11.5	19	Prince Camille de Rohan .....	1861	E. Verdier .....	Crimson maroon
36	11.2	18	Fisher Holmes .....	1865	E. Verdier .....	Shaded crimson scarlet
36	11.2	13	Madame Victor Verdier .....	1863	E. Verdier .....	Clear light crimson
36	11.2	12	Monsieur Noman .....	1866	Guillot .....	Pale rosy pink
37	10.5	21	Violette Bouyer .....	1881	Lacharme .....	Tinted white
38	10.0	10	Earl of Dufferin .....	1887	A. Dickson & Son .....	Deep crimson
39	9.7	10	Duchess of Bedford .....	1879	Postans .....	Light scarlet crimson
39	9.7	5	Sénateur Vaisse .....	1859	Guillot .....	Bright crimson
39	9.7	6	Star of Waltham .....	1875	W. Paul & Son .....	Carmine violet
40	9.5	10	Viscountess Folkestone .....	1886	Bennett .....	Creamy white, shaded pink
41	9.2	6	Marie Cointet .....	1872	Guillot .....	Light pink
42	8.8	7	Countess of Rosebery .....	1879	Postans .....	Carmine rose
42	8.8	7	Marguerite de St. Amand .....	1864	Sansal .....	Clear rosy flesh
43	8.3	7	Reynolds Hole .....	1873	Paul & Son .....	Deep scarlet maroon
44	8.0	6	Victor Hugo .....	1884	Schwartz .....	Bright crimson, shaded
45	7.8	6	Charles Darwin .....	1879	Laxton .....	Brownish crimson
45	7.8	4	Duchesse de Morny .....	1863	E. Verdier .....	Silvery rose
46	7.3	3	Madame Eugène Verdier .....	1878	E. Verdier .....	Light silvery rose
47	7.2	7	Comte Raimbaud .....	1867	Rolland .....	Clear crimson
48	6.7	10	Auguste Rigotard .....	1871	Schwartz .....	Cherry red
49	6.5	2	Madame H. Jamain .....	1871	Jamain .....	Pale flesh
50	6.4	1	Queen of Queens .....	1883	W. Paul & Son .....	Pale blush pink
51	6.2	9	Madame Isaac Pereire (B) .....	1880	Margottin fils .....	Bright carmine red
51	6.2	3	Magna Charta .....	1876	W. Paul & Son .....	Bright pink carmine
52	5.0	2	Comtesse de Serenye .....	1874	Lacharme .....	Very pale rose, shaded
52	5.0	6	Mrs. Baker .....	1876	Turner .....	Bright cherry rose
52	5.0	9	Victor Verdier .....	1859	Lacharme .....	Clear cherry rose



As the time has now arrived when Rose plants should be ordered from the nurseries I again append a list of sorts that I can recommend as being among the cream of the Rose world, and yet few of which are at all difficult to grow.

**HYBRID PERPETUALS.**—*Light Coloured Varieties.*—Madame G. Luizet, La France, Mrs. John Laing, Merveille de Lyon, Captain Christy, Marie Finger, Baroness Rothschild, Viscountess Folkestone, Grace Darling and Margaret Dickson. *Medium Reds.*—Ulrich Brunner, François Michelin, Marie Verdier, Marquise de Castellane, Comtesse d'Oxford, Dupuy Jamain, Camille Bernardin, and Heinrich Schultheis. *Reds.*—A. K. Williams, Marie Baumann, Alfred Colomb, Duke of Edinburgh, Prince Arthur, Dr. Andry, Ferdinand

de Lesseps, E. Y. Teas, Senateur Vaisse, Victor Hugo, Earl of Pembroke, and Madame Henri Perrière. *Dark Varieties.*—Charles Lefebvre, Louis Van Houtte, Horace Vernet, Duke of Wellington, Prince C. de Rokan, Duke of Connaught, and Sir Rowland Hill.

**TEAS AND NOISETTES.**—Innocente Pirola, Souvenir d'un Ami, Marie Van Houtte, Caroline Kuster (N.), Honourable Edith Gifford, Francisca Kruger, Anna Ollivier, Madame Lambard, Rubens, Souvenir de S. A. Prince, Madame Hoste, Souvenir de Thérèse Levet, Jules Finger, L'Idéal (N.), and Ernest Metz.

**BOURBON.**—Souvenir de la Malmaison, Kronprinzessin Victoria, Mrs. Paul.—E. M., *Berkhamsted*.

### TEAS OR NOISETTES.

Position in Present Analysis.	Average Number of Times Shown in the Six Years.	Number of Times Shown in 1891.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	40.6	40	Catherine Mermet .....	1869	Guillot .....	Light rosy flesh
2	34.8	16	Innocente Pirola .....	1878	Madame Ducher ...	White, slightly shaded
3	34.4	28	Comtesse de Nadaillac .....	1871	Guillot .....	Rosy flesh and apricot
4	32.8	34	Souvenir d'un Ami .....	1846	Belot-Defougère ...	Pale rose
5	32.0	32	The Bride .....	1885	May .....	White, tinged lemon
6	31.7	36	Marie Van Houtte .....	1871	Ducher .....	Yellowish white, tinted rose
7	30.8	31	Niphetos.....	1844	Bougère .....	White
8	30.5	26	Souvenir d'Elise Vardon.....	1854	Marest .....	Yellowish rosy cream
9	29.2	29	Caroline Kuster (N.) .....	1872	Pernet .....	Lemon yellow
10	28.0	23	Maréchal Niel (N.) .....	1864	Pradel.....	Deep golden yellow
11	24.8	16	Madame de Watteville .....	1883	Guillot .....	Cream, bordered rose
12	24.7	26	Jean Ducher .....	1874	Madame Ducher ...	Salmon yellow, shaded peach
13	22.7	19	Madame Cusin .....	1881	Guillot .....	Violet rose
14	21.2	29	Honourable Edith Gifford .....	1882	Guillot .....	Creamy white, shaded flesh
15	19.0	25	Madame Bravy .....	1848	Guillot .....	White, flushed pale pink
16	18.3	19	Franeisea Krüger .....	1879	Nabonnand .....	Coppery yellow, shaded rose
17	17.8	21	Anna Ollivier .....	1872	Ducher .....	Pale rosy flesh, shaded buff
18	17.7	8	Madame Lambard .....	1877	Lacharme .....	Salmon, shaded rose
19	16.2	14	Rubens .....	1859	Robert.....	Creamy white
20	16.0	18	Etoile de Lyon .....	1881	Guillot .....	Bright sulphur yellow
21	14.0	14	Souvenir de S. A. Prince .....	1889	Prince .....	Pure white
22	13.8	19	Princess of Wales.....	1882	Bennett .....	Pale rosy yellow
23	11.8	5	Souvenir de Paul Neyron .....	1871	Levet .....	Creamy white, tinted rose
24	11.2	10	Madame Willermoz .....	1845	Lacharme .....	Creamy white
25	9.5	6	La Boule d'Or .....	1860	Margottin .....	Golden yellow
26	8.2	12	Devontensis .....	1838	Foster .....	Creamy white
27	8.0	8	Madame Hoste .....	1887	Guillot .....	Pale lemon yellow
28	7.5	6	Jules Finger .....	1879	Madame Ducher ...	Bronzy rose
29	7.3	7	Madame H. Jamain.....	1869	Guillot .....	White, shaded yellow
30	6.5	2	Madame Margottin .....	1866	Guillot .....	Citron yellow
31	6.0	6	Cleopatra .....	1889	Bennett .....	Pale pink, edged rose
32	5.0	8	Comtesse de Panisse.....	1877	Nabonnand .....	Flesh, tinted coppery rose
32	5.0	2	Madame A. Jaquier .....	1879	Guillot .....	Light pink, shaded yellow

### NITRATE OF SODA FOR CELERY AND CUCUMBERS.

A FEW years ago I called attention in the Journal to the great value of this much-abused substance for applying to plants in pots which from various causes had become unhealthy, also as a medium for inducing quick growth at times when it is desirable to do so, and to enable plants generally to derive the greatest possible amount of benefit from the soil in which they are growing. I have now to chronicle an instance in which nitrate of soda has been used with marked effect and highly satisfactory results upon Celery and Cucumbers. I do this because I am convinced that if this stimulant is used intelligently it is capable of producing a larger yield from a given space than can be obtained by the exclusive use of manures less rich in nitrogenous salts, because nitrogen is the regulating force which enables plant life to bring into active use the amount of potash and phosphoric acid they are capable of taking up. But when, by their abundant crops, they have in a proportionate degree exhausted the fertility of the soil, it would be unreasonable to assume that nitrate of soda exhausts the soil. The right lines to proceed on are to give abundance of potash and phosphates annually to keep up the fertility of the soil, and apply nitrate of soda at intervals to stimulate to the fullest degree of vigorous growth.

On the invitation of Mr. J. Marsh of the Priory Nursery, Warwick, I lately called there to see a house of Cucumbers (from which the fine fruits he staged at the Show held in the Castle grounds in July were cut). Before reaching the Cucumber house I was taken to a large breadth of Celery, upon which nitrate of soda had been used to test its power of producing what is wanted with this crop—viz, quick and vigorous growth—and in order that the test should be a real one several of the rows were dressed only half their length. It was easy to tell to an inch how far the nitrate had been given. Up to that point the plants were strong and vigorous, and of a deep green colour, while in the remaining portion of the row the colour of the leaves was distinctly paler, and the growth made much weaker. Now as this Celery was planted out late it will make all the difference between securing good sized "heads" before sharp frosts appear, or of being content with only moderate sized ones. This is well worth the attention of both gardeners and market growers. The Cucumber house above referred to is an old lean-to structure about 50 feet in length, which has recently been reglazed with large squares, thus securing plenty of light for the plants underneath. On entering this house a wonderful crop of fine fruits were seen. Long straight fruits of Telegraph were hanging from the roof from one end to the other, many of which were of great length and well proportioned—in fact, though Telegraph is not considered a large variety, under the



conditions in which it is grown here it proves too large for market purposes, and Mr. Marsh is on the look out for a variety as prolific, but which produces shorter fruits.

The plants are growing in a border such as we usually find in Cucumber houses, being about 4 feet wide. They are planted on a ridge which slopes sharply the front of the house to the opposite side of the bed. The soil is mulched with short well decayed manure, and at intervals of two or three weeks nitrate of soda is thinly scattered around the outside of the bed, no portion of it being placed nearer than a foot to the stem of the plants. Wherever the nitrate has been given the roots soon find it out, and quickly cover the soil upon which it has been dissolved with a network of white roots; and the heavy crop these plants have been bearing during the last three months show at present no sign of weakness. But little stopping is done, the shoots rambling about at will, so long as they do not become unduly crowded, then the oldest are cut out. Many of the old gardening friends of Mr. J. Marsh, who lived with him at Trentham and Shrubland will doubtless be glad to know that although he is a flourishing hotel-keeper in Warwick, his old love of gardening is as strong as ever, and as life to him seems incomplete without a portion of his time being spent in horticultural pursuits, he has taken the old Priory Nursery, where he intends to make a speciality of growing Cucumbers, Tomatoes, Mushrooms, and Strawberries for market.—H. DUNKIN.

[Our correspondent sent us three remarkably fine Cucumbers, such as could only be produced by well fed plants.]

### HARDY FLOWER NOTES.

If in summer Jupiter Pluvius regarded us with disdain and refused the favours we so urgently desired we cannot now complain of such conduct. Between wind and rain our autumnal flowers are having a sorrowful time. Drenched and battered, and with stakes loosened in the light soil by the furious gales, the taller plants have, in many cases, yielded to the fates, and assumed a humility foreign to their stature and dignity. While Sunflowers and Asters thus bow their heads dwarfer plants fare but little better. Some are bespattered and disfigured with spots of earth or of dampness, and others, such as the Colchicums and autumnal flowering Crocuses, in addition to this find their stems all too tender to withstand the storms and fall over to the ground. Thus with signs of sadness and destruction does the waning year bring warnings of the time when over all shall fall the power of the frost spirit, of which Whittier speaks in his graphic words:—

"He comes—he comes—the frost spirit comes!  
You may trace his footsteps now  
On the naked woods, and the blasted fields,  
And the broad hill's withered brow.  
He has smitten the leaves of the grey old trees,  
Where their pleasant green came forth,  
And the winds which follow where'er he goes,  
Have shaken them down to earth."

Still, while they are with us let us enjoy the beauty of the flowers which linger in our gardens to cheer us and to narrow the gulf between summer and the opening of the flowers of early spring. Here in a cosy little nook *Crocus zonatus* has pushed its blossoms through a carpet of Saxifrage, which helps to support its flowers, and where it looks like some pale fairy beauty which some untoward fate has forced to face the storms and trials of earth, and which is fain to cling to something less fragile than herself. An exquisite little flower it is with its zone of orange and pale purple cup; pale, as if, as is the case, the sun shone but little upon it to give some depth to its colour. In another spot the deeper coloured blooms of the fine *C. speciosus* still linger on, attracting attention and admiration by the exquisite pencilling of their petals. Others are coming on slowly but surely, and one can but wonder that they are so seldom met with. Chastely beautiful, too, is the tiny *Leucojum grandiflorum*, which, with its tiny Snowdrop-like white bells, seems to claim for itself that adjective which to the Scottish mind is so expressive "bonnie;" no other word can so fitly characterise its charms. Unfortunately I cannot as yet speak with confidence as to the hardiness of this Snowflake here. Should I be successful in retaining it, then a few plants will not be the limit of my growth of this little beauty. *L. grandiflorum* grows only a few inches in height, the leaves appearing after the flowers, which are produced on reddish stems, are shaped somewhat like those of *L. vernum*, but much smaller, and shine inside with a beautiful pearl-like lustre which no Snowdrop can approach.

Colchicums, too, in many shades of purple or lilac or white adorn the borders. The splendid *C. speciosum rubrum*, which I mentioned a short time ago, finds no unworthy rivals in *C. veratri-*

*folium*, *C. latifolium* (Sibthorpi of Baker), and *C. autumnale album fl.-pl.* It is a hard task to select one from the quartet and to say this is the best. So we must e'en admire them all, and fortunately we can do so without reproach, nay, even room is left for others with beauty all their own. *C. Sibthorpi* or *latifolium* is now being brought to the front, and it has much to recommend it. The fine form of its petals, its finely chequered flowers, and its tall stature being all in its favour, with the exception, perhaps, of the latter point, which is a doubtful one in a season such as this. We do not often meet with the true *C. veratrifolium*, the *Vera-trum-leaved Meadow Saffron*, for which *C. byzantinum* is sometimes substituted. It is taller, of more substance, and much deeper in colour than *byzantinum*, and the stems are of a fine deep purple. It is quite distinct in foliage, and the specific name is extremely appropriate from the *Veratrum*-like massive leaves. It is a pity, too, that the double white form of *C. autumnale* remains so scarce and high in price. It is of a fine ivory white, of good substance, and lasts much longer in flower than the single variety. Many a time I linger over this flower and admire it in one of the borders of my garden.

I have lately flowered for the first time young plants of the new hybrid *Scabious*, named *Scabiosa hybrida Victorise*. It is said to be a hybrid between *S. atropurpurea* and *S. columbaria*, and to be quite perennial in its nature. I have not yet proved its hardiness or its perennial habit; but should it prove satisfactory in these points, this variety of the "Mourning Bride" should be of great value in the garden. The flowers are considerably smaller than those of *S. caucasica* and vary in shade of colour, some being white, some purplish, some pink, and some deep crimson brown. The foliage is finely cut, and the plants, which are about a foot in height, with me are of neat habit. It is, I believe, of Italian origin, having been introduced to this country by Mr. W. Thompson of Ipswich. The better known *S. caucasica* is doing very well this autumn, and with fine weather would last a long time in flower. The fine lilac coloured flowers are very pleasing, and having long stems are well adapted for cutting. There are two varieties, the one known as *S. caucasica amoena*, being of better colour than the other, which is known as *S. caucasica connata*, from the stem leaves being connate. This *Scabious* is of easy culture in any soil, and blooms for a long stretch at a time.

Specially beautiful just now is that grand plant *Rudbeckia speciosa*, or, as it is frequently called, *R. Newmanni*, although I believe the former is the correct name. The plant is so compact in habit, growing here about 18 inches in height, and so sturdy that it requires little support, and when a good sized plant is closely covered with its bright orange flowers with their black cone-like centres there are few who cannot admire the beauty of the "Showy Cone Flower." I have this year grown plants raised from seed of one named *R. grandiflora*. It is said to be a perennial, but I know nothing of its origin. It is, however, far inferior to *R. speciosa*, and is scarcely worthy of its specific name. The flowers are considerably smaller than those of *R. speciosa*, the petals much narrower and of a duller yellow, and the central cone flatter and more brownish in colour. The leaves are rough, and are oval in shape. I have considerable doubt as to the correctness of the name, but the plant is distinct from any I have seen in gardens or figured or described in various works. The seed was procured from a firm of considerable repute.

The early flowering *Chrysanthemums* are, as usual, of immense value at the present time, and fine as many of these are Madame *C. Desgranges* has as yet no superior for garden effect. Treated as a hardy herbaceous plant it does quite well in my light soil, and the very poverty of the soil while dwarfing the plants and keeping the flowers of smaller size makes this *Chrysanthemum* of greater value in a season such as this. I have clumps which have stood unprotected in the open garden for five years or so, and at the present time the shade of colour afforded by these is very acceptable. Pleasing, too, is the primrose yellow of *G. Wermig*, but after a trial I am forced to agree with the verdict that Mrs. Hawkins is destined to eclipse the earlier introduction and to form a better contrast to Madame *C. Desgranges*. Very pretty and very useful for cutting is the orange coloured *Piercy's Seedling*, and equally useful but not so sturdy in its flower stalks is the bronze *M. W. Piercy*. I have this year grown the dwarf *Nanum Tolosanum* and *Nain Perpetual*. The former seems the brighter in colour, while the latter seems to remain longer in flower. Both varieties are acquisitions for a positions near the front of the flower border, their small pink flowers being very pretty. *Flora* or *Late Flora*, as it is also called, still remains one of the brightest, longest flowering, and most useful of the smaller yellow early flowering varieties.

*Chrysanthemum* or *Pyrethrum uliginosum* has just begun to open its great yellow-eyed white flowers, and should the storms and frost spare it a little longer will soon have the upper part of



its tall stems wreathed in bloom. Stately in growth, hardy as anything in the garden, and beautiful in habit, yet its late flowering nature makes it a source of anxiety at this season. It should undoubtedly have a warm position well sheltered from a north wind. Planted in good soil and thus favoured few of our late flowers will claim more admiration or be more worthy of a little care. Then Asters are now making what is popularly called a "grand show," but methinks those of us who admire the best of these flowers will agree in repudiating the fitness of such an expression when applied to flowers which are among the most harmonious in colour of our tall autumn flowers. Bright as are many of them with shades of purple, of white, of pink, and of lilac, they can never make "a grand show." Theirs is no glaring contrast to the dying leaf, the shortening day, the gloomy weather, but a harmony of colour in which no Sunflower can share, and which seems to appeal to us in our melancholy moods as we think of the changing, shortening days, and to whisper the message of good cheer just as the smile or the glance of the eye of those around us tell without words of their affection. Nor do these flowers pall upon us. From the time when such species as *A. linariifolius* smother themselves with flower till the beautiful *A. grandiflorus* opens a few flowers, only to be destroyed by the sharp frost, there is a constant succession, and if well selected a small collection will cease not for months to interest and delight. Gladioli are still well in flower, and I for one have reason to be satisfied with their contribution to the decoration of the garden this year. From about the 4th of August I have never been without them, and few flowers are more beautiful in the garden, although looking out as I write I see still much in flower, still many things to make us forget that we are now at the 8th of October, and that while the flowers thus bloom we should not forget the flight of time, too surely revealed by the tokens of which William Allingham speaks in his "Autumnal Sonnet."

"Now Autumn's fire burns slowly along the woods,  
And day by day the dead leaves fall and melt,  
And night by night the monitory blast  
Wails in the key-hole, telling how it pass'd  
O'er empty fields, or upland solitudes,  
Or grim wide wave. \* \* \* \* \*

—S. ARNOTT.

### FRUIT CULTURE IN A TOWN GARDEN.

LAST autumn I referred to Mr. F. W. Mole's garden at Edgbaston, Birmingham, as an example of what can be done in the successful cultivation of Pears, especially in the immediate neighbourhood of manufacturing towns. This garden is not a large one, and is walled in on the north, east, and south sides, and the dwelling house is at the west end of the garden, and in a shady and somewhat sheltered corner, but facing the east. A tree of Doyenné du Comice is bearing a good crop of fine, well coloured fruit. Mr. Mole has for many years made a study of the cultivation of outdoor fruits, and adopts the cordon system of training chiefly, with five leads to a tree in most cases. Very frequent syringings are resorted to and summer pruning is the rule, removing young growth as early as June, and continuing to do so. He also thins out the bunches of blossoms, cutting out a large proportion, leaving sufficient to ensure a fair crop of good sized fruits, the fruit also undergoing a thinning process whilst setting. The trees now are in thorough health, frequent syringings having kept them clean from insects, and with fruit of good size (for the season) and quality, and produced from the ground upwards. Moisture is supplied freely at the roots, and if there should be a tendency on the part of a tree to make too much growth judicious root-pruning is resorted to. Several varieties of Pears which have in the south borne high characters have been tried here and some of them discarded after a few years' trial as being unsuited to the district. Sorts which do well here, and are again this year well cropped, are Souvenir du Congrès; Fondante d'Automne, a rather shy cropper; Doyenné du Comice, always fine; Pitmaston Duchess, very fine, one moderate sized horizontally trained tree with fifty fruits upon it; Bon Chrétien Panaché, the striped Bon Chrétien, Durondeau, Williams' Bon Chrétien, Jargonelle, Marie Louise, and Beurré Diel, one tree of which, 8 feet high and 12 feet in length, has 100 fine fruits upon it, having been well thinned to secure large specimens. All the Pear trees are against walls, as the pyramidal trees are little good here.

A few Apples are successfully grown, notably as pyramids, Cellini and Ecklinville. Against a wall there is a fine crop of the Melon Apple, Margil, and Worcester Pearmain, and a few fruits on the American Mother Apple, which is a shy cropper. The Apple trees are also closely summer pruned, are full of fruiting spurs and in excellent health. Mr. Mole's experience of

fruit growing is conclusive that in the suburban gardens of large manufacturing towns Pears and Apples can be successfully grown, provided always that proper sorts are selected and due attention is paid to their culture.—W. D.

### TULIPS.

THE Tulip is one of the most useful bulbous plants that we possess, for it can be had in bloom over a period of six months. For early flowering the scarlet Duc Van Thol must be placed in the foremost position; the white, yellow, and red-and-yellow forms of Duc Van Thol are not worth growing. After the season has slightly advanced Vermillion Brilliant should supplant the scarlet Duc Van Thol. It has a larger flower with considerably more substance; in fact, it is one of the most handsome single Tulips that can be grown. White Pottebakker is the best white Tulip for early forcing; in fact, it is questionable if it is surpassed by any other white, as it is only a few days later than the scarlet Duc Van Thol. The flowers are sweet-scented, and are admirably adapted for wreaths, crosses, and bouquets. For such purposes its pointed flowers, when young, resemble in a very marked degree the buds of that popular Rose, Niphetos. Canary Bird and Chrysolora are the two earliest yellows, and I have never been able to give a definite preference to the one or the other. Some seasons I have had to decide in favour of the former, and at others in favour of the latter.

For early forcing these are best placed thickly together in pans and boxes. One of the secrets of success lies in having the bulbs in boxes as early as possible, and plunged under ashes in the usual way. They should be thoroughly rooted before they are removed from the plunging material; they can then be gradually exposed to light, and by the time the growth is green they can have a temperature of 50° where the atmosphere is moist. They will soon show signs of movement, and when this is visible they may be plunged in brisk bottom heat in the propagating frame, for they will bear without injury more forcing than Dutch Hyacinths. As soon as the colour of the flower is visible they can be lifted out and placed into pots or small pans, according to requirements. Early in the season Tulips flower very irregularly, and it is next to impossible to have even pots or small pans really satisfactory by placing the bulbs in the pots in which they are to flower. If the plants are gradually hardened before removal to rooms or the conservatory they will last, if the soil is kept moist, equally as long as if the plants had been established in their pots instead of being divested of large quantities of roots, as must be the case when planted thickly in boxes and subjected to lifting.

For late flowering La Candeur and Rex Rubrorum are invaluable. Both are double. The first is white and the last bright red, a large showy flower. These, if placed in pots or boxes early in November, and covered with ashes in a north aspect, or potted, will yield flowers at the end of May, when they will be found exceedingly useful for cutting by those who have large quantities of flowers to supply at that season of the year. They travel well, and last a long time after they are cut.—WM. BARDNEY.

### SOME POTATOES.

IN a season when in many gardens disease has played havoc with the Potato crop, I am glad to say we have fared very well. Thanks for that is, I believe, almost solely due to the varieties cultivated. Flavour and good cooking qualities are with us so much a desideratum that I have been very slow to supplant well-flavoured varieties possessed of constitutions unable to resist disease by others less liable to disease, but lacking the very important qualification of good flavour. As I have worked cautiously into a stock of the Potatoes undernoted, having learned by years of experience the exceeding uncertainty of new varieties, I think the results I have obtained may pretty safely be relied upon as being generally applicable.

For a good early—very early—Puritan has steadily made way with me. When well sprung before planting, it may be planted as late as the end of March or the beginning of April—I refer to a northern county—and be ready to lift a good crop of floury-boiling tubers in ten weeks thereafter. It is altogether ahead of Early Rose, Beauty of Hebron, and the others of this class. Duke of Albany I have tried against Puritan, but the former is decidedly inferior in flavour. A Potato of even better flavour, coming in along with Myatt's Kidney, is Sutton's Early Regent. This variety is so early as to be quite out of the way before disease sets in. The flavour is of the Nutty "Regent" stamp, and it is altogether recommendable. I still grow a large quantity of Snowdrop, but two more of the Reading breed—Matchless and Nonesuch—bid fair to occupy the place of the above. Then for an early



autumn sort, Satisfaction has done great service for the past year or two.

At the present time one of the best Potatoes for either field or garden culture is one which has brought much honour to its raiser, Mr. Finlay of Marckinch—namely, The Bruce. It is not generally known that this very fine Potato is of capital flavour in autumn; but so it is. We have been using it for some weeks past, and, as in past years, so in this, it proves exceptionally good. Mr. Finlay was, during the past summer, presented with a testimonial by northern agriculturists and others as a recognition of the value placed upon his services to the county at large, and to farmers in particular, by means of his seedling Potatoes, The Bruce being one of the finest. A few years ago I drew attention in the Journal to this fine late variety, but it does not as yet seem to be much known in the south.

It is perhaps too early as yet to draw attention to the desirability of getting in a stock of seed Potatoes at an early period of the new year, but no measure in Potato culture pays better. The grower who secures a supply of new seed before sprouting takes place, and who takes the little trouble of starting the tubers slowly, will find himself amply repaid in the quantity and quality of the crop. Some cultivators do not find it necessary to introduce new blood; but where it does not pay to do so the exception to a rule is to be found there. I have heard the statement occasionally made that seed for a light soil ought to be secured from heavy land and for heavy land of a light soil, but I do not know that that is a statement to be absolutely relied upon. For my own part, having a light soil to deal with, I have had splendid crops from seed grown on sandy soil.—B.

### GLADIOLI.

I AM much obliged to your correspondent "J. A. W." for his kindly words of sympathy. Well, there is no use in saying that it was not a bitter disappointment, not being able to even put in an appearance at the Crystal Palace, for I was hindered by sickness at home from going up even to see my "pupil's" stand; "but there are worse troubles than that at sea," and I must only hope that another year I may be more fortunate.

The period at which the different varieties of Gladioli come into flower is a very puzzling matter, and I believe it to be entirely independent of the period at which they are planted. That were I, for example, not to plant Shakespeare until early in May I should still have it in bloom by the end of July; but it is still more puzzling that the same varieties should differ in different localities. Messrs. Vilmorin, Andrieux, and Co. gave in their catalogue of Gladioli indications of this by marking them with the letters A, B, C, and D, and while these in general agree with my own observations there are notable exceptions. Thus Horace Vernet, which your correspondent finds, as I do, to be amongst the earliest flowers, is marked with D, signifying that it is amongst the latest. I cannot suppose that they are incorrect, and can only surmise that the difference arises from some climatic cause. Baroness Burdett Coutts, which your correspondent is surprised that I should number amongst the early flowering ones, is marked in their catalogue B, and with me that is its true position, and I have always found it come in for early shows. There are a few others which may be generally relied on for this purpose. Bicolore, a very distinct and striking flower by reason of the deep contrast the large white blotch creates, is always a dependable bloom for early work; the same may be said of Dr. Bailly, a grand bright flower; and also Magnificus Formosus, another of the new varieties, is a very lovely light-coloured bloom with a beautifully close set spike, and is amongst the earliest bloomers. It must also be noted that occasionally some single bulb of these early flowering sorts will, for some reason or other, not flower so soon, and I have cut even Shakespeare at the end of the season; but these are amongst the exceptions which prove the rule. While writing these lines I have received a note from an unknown correspondent in Brechin, who seems to be a very ardent and intelligent cultivator of the flower, and he mentions a fact in his letter which explains a matter which has sometimes puzzled me—how in those northern latitudes they managed to get their flowers in about the same time that we do in the south. He tells me that he pots all his corms, and is enabled to have them in bloom from the beginning of July. That is not, of course, necessary with us, for as a rule the difficulty is to keep them for the later shows. It has not been so this year; but one swallow does not make a summer, so because we have had one late season it is not to be expected that all seasons are to be late, yet in the matter of Rose shows some seem to be already acting on this supposition, and wish to have dates altered to suit what they suppose will be the normal character of our seasons. I believe, however, that we might take a hint from this with regard to our late-blooming kinds. If they were potted up it would probably hurry them on, so as to get them in flower earlier. Such varieties as Fantôme, Phœbus, and Kelway's Duchess of Edinburgh might be profitably treated in this way. My correspondent is another of those who (*pace* Mr. Kelway) halve their corms, while Mr. Lindsell tells me that he has made careful experiments with half and whole corms, and that unquestionably those treated in the former way gave the better results.

Your correspondent asks me whether I should advise his cutting

away the spikes when they are not showing colour. I should say so most decidedly, just as for the same reason I should cut them away from any spawn. The corm has its attention, so to speak, divided between increasing the new corm and furnishing supplies to the flowering stem, and therefore I think that if the stem be cut away, leaving the foliage as much as possible, that the whole energies of the plant being then given to the increase of the corm, must act very materially to its advantage, and when spikes are so late they rarely can give any satisfaction, even for the purposes of decoration. I cut a number yesterday to send on to a nursery sale, and although to the uninitiated they looked handsome enough they did not satisfy me very well. The flowers become somewhat limp at this season, and lose their freshness very soon.

The work of harvesting the corms will soon begin. Where seedlings or spawn are grown they may be lifted first and laid out in a cool greenhouse or other convenient place to dry off, the larger corms being left until later on. We want some dry weather to mature them, the constant moisture having kept them in a growing state for a long time.—D., Deal.

### CALDERSTONES.

WITHIN easy distance from Liverpool is Calderstones, the residence of Mrs. C. MacIver, one of those establishments, of which there are many in the district, where gardening is carried out in the best possible style in every department. It is under the charge of Mr. W. Tunnington, known to outsiders more especially in connection with the Chrysanthemum, for he it was who undoubtedly gave such an impetus to the higher cultivation. There is no formality about the Calderstones. Hollies, Pines, Rhododendrons, &c., grow luxuriantly. Pleasant nooks abound, and the view from the lawn is excellent, there being some fine specimen Yews. Planting has been done liberally and judiciously, and the effect is most pleasing. The houses, if not of the modern type themselves, contain most of the plants up to date. In the Peach houses the fruit had all been of capital quality, the wood was ripening well, and full of good stout buds, disposed over the trellis at about 5 or 6 inches apart, showed the practice which ought to be oftener followed. The vineries were next inspected. One occupied with very old Vines is to be cleared and young ones substituted. Two others, with some good young canes, carried fine bunches of Lady Downe's, Muscat of Alexandria, and Alicante. In these were some excellent plants of Dendrobiums resting, especially fine being *D. Dalhousieanum* and *D. moschatum*. Passing on we come to the plant house, which contains some fine Azaleas, the front stage being occupied by an excellent strain of *Celosia pyramidalis* of a very deep colour, and the roof was covered by two fine well flowered plants of *Lapageria rosea*.

We follow to a range of span-roofed plant houses and stoves. The first was filled with well-grown plants of Pelargoniums, Primulas, Cinerarias, Tuberous Begonias, Cyclamens, and many others. A stove in two divisions was well stocked with dwarf Poinsettias, winter flowering Begonias in many types, and other plants, which will make a grand display later on. A portion of the roof was occupied by a very prolific Cucumber, the space underneath being filled with Maidenhair Ferns in small pots. Another stove had trained on the roof immediately over the pathway a grand plant of *Allamanda Schottii*, running the whole length of the house, and what a useful variety it is. I could not help comparing it with *Hendersoni*, which, however beautiful to look at, is not nearly so useful for cutting, as it does not possess a stiff habit. On the corresponding side is a fine old *Bougainvillea* trained to a single stem and full of bloom. If not the first, it is nearly the first introduced into Lancashire. At one end was a fine plant of *Aristolochia grandiflora* with a great number of flowers. The centre bed is filled with a capital assortment of plants incidental to such structures, whilst the side stages are devoted to healthy Orchids of the most approved varieties. The last house in this range is the Pine stove, but a portion of it is set apart for *Eucharis* and *Calanthes*, the back part of the roof being covered with two good plants of *Stephanotis*. The *Eucharis* must be seen to be appreciated. About 100 large specimens all in rude health are here grown, and the *Eucharis* mite is absent. On this subject Mr. Tunnington says they would never be heard of if the plants received kindly treatment. The *Calanthes* have pseudo-bulbs 15 and 18 inches long and stout in proportion, and all pushing massive spikes. I never remember seeing such a grand example. Large numbers of Pines are grown, and many carrying fine fruit. The conservatory was very gay for the season with a miscellaneous collection of flowering plants, and I must mention a fine plant of *Plumbago capensis* and *Lapagerias* on the roof which were flowering well.

Outside beds are filled with Scabious, Pyrethrums, Carnations, white and rose *Anemone japonica*. Dahlias, beautiful being Mrs. Langtry, Walter Williams, Mrs. Gladstone, Mrs. Kendal, Mr. Milner, Eccentric, and many others, besides a host of other outdoor flowers in profusion, occupy places in the garden for cutting purposes. The fruit trees have a capital crop, more especially Pears, the cordons being remarkably fine. I was beginning to fear it was nearly an impossibility to cultivate Peaches here out of doors; but Mr. Tunnington believes otherwise, and he is right, judging from the well-coloured samples of Barrington still on the trees; in fact, all the trees had borne well, and this in a most unfavourable situation. Doubtless your readers will wonder why I have not touched on the Chrysanthemums. This is reserved for the present. But I cannot omit the following:—Two fine plants of a seedling Chrysanthemum, carrying enormous buds, seemed



to stand out more prominently than the rest. I was informed they were sent down for trial by Mr. Owen. Should they turn out well we shall, ere long, see a variety bearing the name W. Tunnington, a name which ought to have been honoured long ago.—R. P. R.



**DENDROBIUM PHALÆNOPSIS VAR. SCHRÖDERIANUM** — "THE ELEPHANT MOTH ORCHID;" OR, "THE KING OF THE DENDROBIUMS."

MUCH curiosity has been aroused concerning this *Dendrobium*, of which a large sale is announced to take place at Messrs. Protheroe & Morris's rooms in Cheapside to-morrow (Friday). The type has been supposed to be very scarce, and comparatively few plants are in cultivation, and, beautiful as these are, they are certainly surpassed in size, colouring, and variation by that which has been named in compliment to Baron Schröder. Of these, Messrs. Sander & Co., St. Albans, have succeeded, after many difficulties, in importing a quantity of plants which will make their appearance in Cheapside on the day mentioned above. It seems that about eighteen months ago a collector reached a small port in New Guinea with 400 plants; but the ship took fire, and everything was lost except the crew and passengers. Another troublesome journey became necessary, and as the result of this plants have at last been secured in good condition.

The collector's letter relating to his journey is so interesting that it is well worthy of reproduction here.

"With great pleasure I announce to you the fact that I arrived here yesterday with my plants in the finest order, and you will get striking novelties at last from this terrible country, and you will have every reason to be satisfied. It was the best time to collect the *Dendrobe*; they had just finished growing, and some were in full bloom, and oh what a glorious thing it is! I forgot all my troubles when I saw the first on some rocks near the huts where I was staying, where they grew on the bare limestone between a great number of human skulls and bones. The natives do not bury their dead, but put them in a kind of coffin and then place them on these solitary rocks, which stand scattered about the shore or beach, and which can be reached or got at only at ebb tide. Here in these rocks the plants grew most luxuriantly, exposed to the full sun, and when the weather is rough they often get the spray of the sea water. At first the natives did not like the idea of collecting the plants off those rocks; they were afraid the departed, whose bones were bleaching in the sun, would resent it, but when they saw the gorgeous handkerchiefs, beads, looking glasses, and the brass wire I offered them for the plants they did not trouble themselves any more about their ancestors, but boldly went and rooted out every plant to be found. However, you need not be afraid, I shall send you no bones or skulls with them; the majority of the plants come from places where no bones or such like were found. The plants grew chiefly on these solitary much-honeycombed limestone rocks, always exposed to the sun, or getting only very little shade during a part of the day. It also grows on trees in the Ficus groves more inland, although very sparingly. I found the big specimens on the highest trees in the dense jungle, where it is very rare, and I only saw a few on the highest trees. I should think in cultivation it will require plenty of moisture while growing, and culture like *D. nobile*.

"In size and colouring it differs as much from the ordinary *D. Phalænopsis* as *Dendrobium Wardianum* does from *D. crassinode*; the largest flowers measured  $4\frac{1}{2}$  inches across, none measuring less than  $3\frac{1}{2}$  inches. I saw a few plants with branched spikes, but this seems only excess of strength; the spikes are generally from 20 to 35 inches long; on some I counted twenty-five flowers; the colour is very variable, ranging from pure white to dark purple-red, and some are differently coloured and variegated, but bright and clear. The flowers last a long time, individually eight weeks, and during my stay of three months I saw many flowers in April, May, and June; and a Dutch trader, one of our party who has been here twice, says that he has seen it in flower in July, August, and September. It is without doubt the finest *Dendrobe* in existence, and a gorgeous Orchid. I only hope I shall get safely back again, and that the plants will arrive in good condition.

"Your letter from the 8th of February I have received, but I see no possibility of getting the *Dendrobium* this year. It is not far from the place where the steamship was burnt; the Dutch traders are all away now, and I could not return with them before December. Going by

myself there would mean endangering my head very much, so I think it is better to wait till next year, when I can go with a trading expedition. The natives are not bad, only somewhat troublesome; they think no more of killing anybody than your cook does of killing a fowl, but they would not easily attack a Dutch trading party, knowing how well armed they are, especially when one takes a little care not to quarrel with them.

"One of their idols, the god with golden eyes, I had to place in a case to accompany the plants, and take care of them on the journey; the savages wanted this, and I did it to satisfy their superstition. They always carry these gods into their battles. I put all the plants in baskets I had made by the natives here, and when all were packed they gave a war dance in front of them. I wish my camera had not been lost in the shipwreck, and then I could have sent you photographs of the extraordinary *Dendrobium* and the savages." It may be added that the "Golden-eyed Idol" forms the first lot at the sale in question.

**ORCHID NOTES.**

**DENDROBIUMS.**—It is not uncommon for these to fail or begin gradually to decrease in vigour after they have been established for a few years. Newly imported plants that arrive in good condition invariably, under suitable treatment, make strong vigorous pseudo-bulbs. This is due mainly, if not wholly, to their thoroughly ripened condition and the complete season of rest they have enjoyed. Decrease in vigour mainly results from insufficiently ripening their growths and depriving them of that complete rest that is the secret of health and vigour. It is next to impossible to ripen these plants thoroughly or rest them sufficiently in the houses in which they make their growth; that is, when they are grown in mixed collections. The difficulty is greatly increased when shading of a permanent nature is employed instead of blinds that can be drawn up and down at will. Such species as *D. Wardianum*, if kept in a close confined atmosphere, no sooner finish lengthening their pseudo-bulbs than they start again into growth. Once this condition is brought about it is difficult to know exactly how to treat the plants. If the new growths issuing from the base are cared for, those previously made are imperfectly ripened in consequence. This is not all, for the result is a very poor supply of flowers. It is unfortunate, perhaps, that the growths that may start from the base at this season of the year never attain the same strength and size as the previously made ones have done. Growth



FIG. 66.—*DENDROBIUM PHALÆNOPSIS* VAR. *SCHRÖDERIANUM*.

made during the dull days of winter can scarcely be expected to be so strong as those that start in spring. Frequently when plants are allowed to make these second growths they gradually degenerate afterwards.

The treatment to aim at now is to gradually expose all plants to light and more air that have their growths in an advanced condition once they have ceased to lengthen and have commenced to ripen. This is the only means of preparing them properly for enjoying a complete season of rest, which is the secret of health and vigour.

**A WARNING.**—Beginners in the culture of Orchids or those taking charge of plants that may be in an unsatisfactory condition at their roots must be exceedingly careful in overhauling and



repotting them at this season of the year. It is always somewhat risky, even with plants in good health and at the proper season of the year, to shake away the whole of the material and supply fresh. Where Cattleyas, Lælias, and plants of a similar nature are unsatisfactory water with care, and attempt to ripen thoroughly the small but puny growths they may be making. This is the only reliable course, and then thoroughly renew the compost just before they start into growth during the early spring months.

**POTTING ODONTOGLOSSUMS.**—Where these have not been repotted it may safely be done at once. There can be no question that the autumn is the best time for repotting these plants. Annual repotting is also recommended. The plants are healthier and grow with greater vigour with perfectly fresh than when the material about their roots is decomposed. By potting at this season there is less risk of injury to their roots than is the case in spring. The plants are not long when potted at this season before they push out roots in abundance from the base of young growths.

**TEMPERATURE FOR ODONTOGLOSSUMS.**—No greater mistake can be made in the culture of these plants than to have a low night temperature during the winter months. Abundance of moisture should be maintained, and the temperature should not be allowed to fall below 45° in the morning. The average winter temperature should be 50°. If the plants are subjected to a low winter temperature they become stunted, and will take at least two years to recruit them again. It is surprising how quickly the plants go back with a low temperature, and how long they need careful treatment before they grow again with vigour.—ORCHID GROWER.

### MANURING.

ALL experience proves that profitable crops cannot be had from any soil over a series of years without judicious applications of manure. From the soil plants abstract the elements necessary for their health and productiveness; in fact, the soil supplies all the feeding constituents required by plants except carbon and nitrogen. But growing crops are continually abstracting lime, potash, phosphates, sulphates, and nitrogenous substances from the soil, and, as the crops (often the whole plants), are taken off the ground the soil slowly but surely loses its fertility, weakly plants taking the place of healthy and profitable, unless the substances removed in the crops are restored to the soil in the shape of manure.

The constituents of plants are derived from the air and the soil. They are classed as organic and inorganic. The organic constituents of plants comprise carbon, hydrogen, oxygen, nitrogen, sulphur, and phosphorus. Carbon, forming the woody substances of plants, is obtained from the atmosphere in the form of carbon dioxide,  $\text{CO}_2$ —that is, one atom of carbon connected with two atoms of oxygen. Oxygen and nitrogen are partly derived from the air, but these elements are taken mainly, and in the case of most plants wholly, from the soil. Certain plants, however, possess the power of assimilating atmospheric nitrogen, whilst other plants are incapable of extracting this valuable element from atmospheric air. Hydrogen, sulphur, and phosphorus are taken from the soil.

The inorganic constituents of plants consist of iron oxide, lime, magnesia, potash, silica, soda, phosphoric acid, sulphuric acid, and chlorine. All these are obtained from the soil. Plants require adequate supplies of organic and inorganic elements to render them healthy and fruitful. The organic substances essential to plant growth are carbonic, nitric, phosphoric, and sulphuric acids. Plants also require iron, lime, magnesia, potash, silica, and soda. Some plants require large quantities of certain elements and small proportions only of other substances. This does not imply that the minor constituents of plants need not be applied to the soil, or that they are non-essential for the healthy growth of plants and a full yield in their crops. Possibly all the inorganic elements may be present in the soil in excess of the crop's requirements, but they may exist to no useful purpose, because insoluble, and one of the objects of manuring is to apply such substances as will render the insoluble available as plant foods, instead of allowing them to lie uselessly in the soil. Cereals need liberal supplies of nitrogenous manures, but the application of nitrogen will only give a Wheat plant falling a prey to rust, unless silica in available form is present to strengthen its stem and harden its tissues to the extent of maintaining the plant erect and resisting attacks of fungus. In fact, it is a great mistake to rely exclusively on superphosphates (phosphoric acid) for cereals, or limit manuring to potash. True, M. Ville ignores the minor constituents of plants altogether, as, for instance, his special manure for Wheat, which consists of superphosphate, chloride (muriate) of potash, sulphate of ammonia, and gypsum. Indeed, M. Ville states that the only substances needed by any soil as manure are nitrogen, potash, lime, and phosphoric acid. This manifest reliance on the acid secretion of plants for dissolving the insoluble minor constituents of soils and thus rendering them available as plant food is unwarrantable, and proved erroneous by the system of manuring adopted in this country with the greatest success. This consists in supplying the minor constituents of plants to the soil in such form as will secure healthy crops and full yields of produce, or the manures applied are of such nature and contain elements which, acting on the minor constituents, converts them into soluble compounds.

Kainit, for instance, is admittedly applied to land as a manure for

Wheat on the sole principle of benefit through its potash, but kainit is a very different substance from M. Ville's potassium chloride, or other potash salt. Kainit contains about 24.43 per cent. of potassium sulphate, and it also contains salt (sodium chloride), and the chloride and sulphate of magnesia. Potash effects a better nutrition of cereals, and with nitrogenous manure counteracts the "burning" of superphosphates (phosphoric acid), but potash alone is relaxing, yet kainit, through its soda, sets silica free, and the chloride of magnesia acts on the insoluble, so that kainit not only affords better nutrition to the Wheat plant, but safeguards it against disease, and enables it to maintain itself erect under the weight of grain.

Messrs. Lawes and Gilbert apply the minor constituents under no cloak. Their mixture for Wheat not only comprises M. Ville's superphosphate, potash, and ammonia, but soda and magnesia; therefore direct benefit accrues from the application of some of the minor constituents, and others act indirectly on the insoluble minor ingredients, and by rendering them soluble they are taken into the plant during its period of growth, and thus properly nourished the crop produces a full yield.

Soils may contain a sufficient quantity of the minor constituents for any crop's ultimate requirements, yet not existing in the form of soluble compounds during the period of growth, or only in partial and inadequate quantities, the plant is ill nourished, oft diseased, and the crop does not produce a full yield. A soil may contain potash, lime, and phosphoric acid abundantly, yet be more or less barren, because a soil's fertility depends upon the presence within it of all the ash elements of plants available as food. It must be remembered that gaseous and liquid manures are alone absorbed by the rootlets of plants, and that solids are never admitted into the interior of any vegetable. It is absolutely essential that the nutrient elements of plants exist in the soil in soluble form, and that the constituents of soils occur in such a state of combination as give a constant and regular supply of nutrition. Many crops fail because the soil is not in a condition to support them, and this arises in gardens more often through lack of one essential ingredient than from a maximum of others.

A soil may contain a sufficient quantity of potash to yield ten full crops of Grapes, and of other elements needed by the Vine enough to support twenty crops, yet the excess of the latter will be unavailing, for the soil would be exhausted of its potash by the ten crops. By adding to such a soil a supply of potash it would again become capable of producing a full yield of Grapes, and would go on doing so until some other ingredient was used up, when it also would have to be added; and so on one substance after another would be consumed until the soil became completely infertile. Applying potash annually would maintain the soil's fertility as regards that substance, but it would not supply the deficiencies of lime and phosphoric acid, for the fertility of the soil depends chemically (1) upon the presence in it of all the ash-elements of plants and of nitrates in proper quantity; and (2) on their occurrence there in such states of combination as give a constant and regular supply. Therefore it is necessary to add at intervals a quantity of the elements of plant food equal to that which the crop removes. This is patent to all scientific and practical cultivators, and is the foundation of the use of manures. Soil exhaustion can only be prevented by judicious manuring, and an increase of crop secured by giving the soil a larger quantity of the elements of plant-food than is needed to replace what has been removed in the crop. Thus soil by manuring is made to yield a larger crop than it did in its normal condition. A soil to yield profitable crops must contain all the nutritive elements of plants in due proportion and essential form. It cannot remain fertile unless the ingredients removed with every crop are again added by manure, and from the inexhaustible store of the atmosphere.

Rotation of crops, although useful, is not sufficient to keep the soil in a fertile condition. Alternating on the same soil deep-feeding plants and shallow feeders, or following those crops that require phosphates with those needing nitrogenous manures, are not alone capable of maintaining the fertility of any soil. Crops that require a large amount of potash should be followed by those requiring only a small amount. One crop takes the potash out of the soil, and by the other a certain amount of potash comes into the soil. Brassicas, for instance, extract a large amount of potash from the soil; economy prompts following them with a crop that requires a small amount only of potash. Indeed, it is easy to show by agricultural chemistry that some plants enrich the soil—actually manure it for a succeeding crop. A good Clover crop removes from the soil when made into hay twice the ash elements and nitrogen that are contained in a good Wheat crop, yet the Clover crop may be obtained from a soil that will only produce the Wheat crop when aided by manure; indeed, the Clover crop will not only grow on the unaided soil, but enrich it so that it can support a subsequent Wheat crop. The fertilising effects of Clover are due to its assimilating nitrogen much more rapidly and in larger quantity than the Wheat plant. It flourishes on a small supply of nitrogen, and gives a full yield where Wheat would only make half a crop; besides this, the Clover leaves in the soil where it has grown more nitrogen in its roots than an entire Wheat crop contains. On the other hand, Clover adds nothing to the soil in the way of ash elements, but it transmutes the insoluble substances into soluble, and collects largely by the deep penetrating roots, bringing up plant nutrition, and when its roots decay the stores of food remain where a succeeding shallow rooting crop can utilise them, whilst the roots can follow those of the decayed Clover, and are better able to withstand drought. This enriching process has its limit, for land kept in Clover gets Clover-sick, which is considered due to the exhaustion of the



deep-lying plant food, the Clover having exhausted the available sources of supply.

A judicious alternation of crops enables the cultivator to so operate on a soil as to make it produce profitable crops by economising its resources; stirring and weathering it improves through the fertilising effects of a rotation. It is feasible to produce maximum crops of any kind on the same ground year after year, but it proves easier and more economical to alternate crops. This as regards the mineral as well as nitrogenous substances. In a four-course rotation, say, Roots, Barley, Clover, and Wheat, the principal mineral ingredients of the soil absorbed by the crops are potash, silica, and lime. "1, Turnips abstract, as shown by their ashes, 50.12 per cent. of potash. 2, Barley, 55.03 per cent. of silica. 3, Clover, 56.00 per cent. lime. 4, Wheat, 64.9 per cent. of silica." These data are those of Dr. Griffiths, and show that Turnips and other root crops, especially Potatoes, extract a large amount—53.80 per cent.—of potash from the soil, therefore full yields of these crops may only be had by the liberal use of farmyard manure and artificials that afford a supply of phosphoric acid as in superphosphates, and in the case of Potatoes potash. These substances are wholly derived from the soil, and the preceding Wheat crop only removes 11.67 per cent. of the potash from the soil, hence it is most economical to follow one crop requiring one element or more in less quantity than that by which it is followed. Wheat only takes 4.49 per cent. of phosphoric acid from the soil, though its grain ash contains 45.26 per cent., yet Turnips (ash) show 16.41 per cent. of that substance, and Potatoes 15.63 per cent.; consequently after a Wheat crop the soil is comparatively rich in potash, phosphoric, and sulphuric acids to what it is after a Turnip or other root crop, therefore the necessity in economic husbandry of a proper rotation of crops.

This principle of rotation cannot well be followed in gardens, in fact the gardener grows no crop that corresponds to cereals, but cultivates two descriptions of crops only, and in many respects only one—namely, the nitrogen consumers, hence gardeners use very much more stable and farmyard manure than farmers. Our views as to the use of manures have undergone considerable change of principles during the past few years. We have noted the fact that agricultural crops are of two kinds only, and we have studied them under a variety of soil, climate, and cultural conditions with a view to applying the principles of agricultural chemistry to horticultural subjects. We have given a résumé of the late practice of farmers in which there is nothing that is not sound in theory, safe and economical in practice, for it must be distinctly understood that the farmer cannot manure all his land with ordinary farmyard manure, he not having, like the gardener, the run of the manure heap, which costs nothing, but out of the produce of the land he must manufacture enough manure to restore to the soil the substances abstracted by the crops, and it must be effected in such a way as to leave a margin of profit. This the farmer finds it impossible in practice by the ordinary, and until lately prevalent, methods of rotation and culture. The most the farmer can do is to keep his permanent pastures fertile by giving his stock more to eat than they are able to obtain in grass, for profitable farming demands an increase rather than a stationary fertility of the soil, and manufacture enough manure out of products of the arable portion of his lands as will prove sufficient to maintain fertility, and enable him to produce the essential hay and root crops. This he finds impossible, for there is always a loss in the shape of grain, hay, milk, and live stock, though the latter leaves behind it when cake is used in feeding its equivalent in manure, yearly taken off the soil. Whatever a crop takes from the soil without restoring to it an equivalent impoverishes it. This the farmer is well aware of, therefore we find him anxious to sell hay and straw, which have little manurial value, in order that he may buy the more important and far more valuable potassic and phosphoric elements his soil requires to enable him to cultivate his farm creditably and profitably. Experience has proved, as science had long shown, that the most a farmer can do in the way of manufacturing manure on his farm is to produce enough to manure the land he must necessarily keep under root crops. That being so it follows that the manure produced is inadequate to permanently maintain the fertility of the whole farm, for it goes without saying that the soil's fertility cannot remain unchanged unless all the ingredients of the crops are restored to the land.—G. ABBEY.

(To be continued.)

#### VEGETABLES AT HIGHCLERE.

IN my opinion the description of these (page 303) does not, as is implied, denote Mr. Pope's connection with his growing and showing. Turnips are said to be a favourite dish. I consider them one of the most difficult to obtain perfect. Mr. Pope had none in his collection at Edinburgh. It is remarked Cucumbers are appreciated during September more than in the month preceding. How is this? The absence of Cucumbers in Mr. Pope's collection at Edinburgh was greatly commented on, a rule being stated that the second list of prizes for collections of vegetables were not to contain "Cucumbers or Tomatoes," the inference being that the preceding collections should do so. It is said "Parsnips in October and November are a strong dish." Mr. Pope's collection contained a dish of them on the 9th of September, which may find a parallel in anyone sending Lady Downe's Grapes to the table in the month of July. Globe Artichokes are not a weighty dish. Anyone can cut a dish for a collection from the same plants year

after year without further cultivation than placing a liberal quantity of manure round them once a year. Then "Leeks are much more sought after now for exhibition than formerly was the case, when the blanched part was but a few inches long; but now it is nothing uncommon to see Leeks with 1 foot of stem thoroughly blanched." That is so. The great majority of those staged in the collections at Edinburgh were blanched more than 1 foot, and indicated having received the utmost attention; but Mr. Pope's were in curious contrast to these, as they were not blanched more than 6 inches, and the place given them made more than one grower wonder.—OBSERVER.



EVENTS OF THE WEEK.—To-day (Thursday) the annual dinner of the United Horticultural Benefit and Provident Society will take place at the Cannon Street Hotel, E.C. George A. Dickson, Esq., of Chester, will take the chair at 5.30 P.M. On Tuesday, October 20th, the Fruit Show at Manchester will be opened, and a Conference will be held in conjunction with it on October 21st and 22nd, at noon each day. The sales for the current week by Messrs. Protheroe & Morris at Cheapside include *Dendrobium Phalaenopsis* var. *Schroederianum*, and the old *Cattleya labiata* on Friday, October 16th; a collection of Orchids from Old Park, Ventnor, on October 20th; a large consignment of *Kentia* seeds, on October 21st; and nursery stock at Tunbridge Wells on October 22nd and 23rd.

— WE are pleased to learn that DR. M. T. MASTERS of the *Gardeners' Chronicle* has been nominated an honorary member of the Dutch Horticultural and Botanical Society in recognition of his valuable services to botany and horticulture.

— JAMAICA INTERNATIONAL EXHIBITION, 1891.—Messrs. James Carter & Co. desire to state that they have been awarded the highest prize (a gold medal) for their exhibits of English tested seeds, packed for the Tropics. The display also comprised growing examples of some of the most beautiful varieties of English annuals, many of which originated upon Messrs. Carter's Seed Farms in Essex.

— THE ECCLES, PATRICROFT, PENDLETON, AND DISTRICT CHRYSANTHEMUM SHOW, to be held at Eccles on November 13th and 14th, is, owing to a considerable increase in prizes expected by the Committee, to be one of the best in the north of England.

— CHRYSANTHEMUM SHOWS.—As announced in our advertising columns, the seventh annual Show of the Portsmouth Society will be held in the Drill Hall, Landport, on November 4th, 5th, and 6th next, when over £200 will be offered in prizes. The Hon. Sec. is Mr. F. Power, 26, Queen Street, Portsea. The Twickenham Society will also hold their annual Show in the Town Hall on November 17th and 18th, and schedules can be had from Mr. James T. G. Pugh.

— CHRYSANTHEMUMS IN LONDON.—We understand that the Chrysanthemum exhibition at Southwark Park will be opened on Saturday next, 17th inst., and will continue open daily to the public, 10 A.M. till dusk during the season. The annual display at Finsbury Park was opened last Saturday, and will be at its best in a fortnight's time. The Show of Chrysanthemums at Battersea Park will be opened to the public on Friday next, the 16th October, in the Frame Ground.

— MARRIAGE OF MR. L. G. SUTTON.—We learn from the *Reading Mercury* that the marriage of Mr. Leonard Goodhart Sutton, youngest son of Mr. Martin Hope Sutton, and partner in the firm of Sutton & Sons, with Miss Mary Charlotte Annie Seaton, daughter of Colonel Seaton, Madras Staff Corps, of Salween, Beckenham, Kent, was solemnised at Christ Church, Beckenham, on Wednesday, September 30th, in the presence of a large congregation composed almost entirely of the friends of the contracting parties. The church was beautifully decorated with Palms and flowers for the occasion, and the ceremony was performed by the Rev. S. H. Soole, M.A., Vicar of Greyfriars Church, Reading, brother-in-law of the bridegroom, assisted by the Rev. A. Valpy, M.A., rector of Standford Dingley, near Reading, the bridegroom being attended by his brother, the Rev. Claude H. Sutton, M.A. as best man.



— GARDENING APPOINTMENTS.—Mr. W. Cooper, late foreman at Normanton Park (Lord Willoughby de Eresby's), has been appointed head gardener at Somerby Park, near Gainsborough. Mr. Chas. Crooks for several years foreman at Impney, has been engaged as head gardener to the Dowager Lady Hindlip, Hadzor House, Droitwich.

— AT a recent meeting of the PRESTON AND FULWOOD FLORAL AND HORTICULTURAL SOCIETY held in the Legs of Man Assembly Rooms, Councillor J. Brown in the chair, Mr. J. Hathaway, gardener to the Earl of Lathom, Lathom House, near Ormskirk, read an excellent paper on the cultivation of the Chrysanthemum. Numerous cut flowers and plants were exhibited. Before the meeting was closed it was decided to apply to the County Council for a grant in aid of technical instruction in horticulture.

— MELON CARTER'S AMBERWOOD BEAUTY.—This, in some respects, much resembles Hero of Lockinge, but I consider it quite distinct from that variety, and well worthy of being given a trial in most gardens. It is a moderately strong grower, also free setting and heavy cropping, and suitable alike for house and frame culture. The fruits with me were of medium size, none weighing more than 3 lbs., somewhat oval-shaped, beautifully netted, and of a rich yellow colour. It softens more quickly than the Hero of Lockinge, in this respect more resembling its other parent Blenheim Orange, and keeps quite as well after it is ripe. There is a good thickness of light green flesh, and the quality is decidedly first-rate. In this variety Carter's have an excellent companion for their Blenheim Orange.—W. I.

— PEAR KNIGHT'S MONARCH.—Like Mr. Iggulden, I also have to record the Pear Knight's Monarch a failure. We have a fine espalier trained tree, occupying a south aspect. For the past fifteen years it has always been a sure cropper, the fruit has grown to a good size, but when approaching maturity it always falls, and we have never had it once fit for dessert. Mulching has been tried, and watering as well, but all to no purpose, the fruit will still persist in falling. This year the tree is marked as one doomed. It grieves me to have to destroy it occupying as it does a large portion of our fruit tree arch, and the gap will not soon be filled up. If any of your readers could suggest a remedy I should be extremely grateful, would try it, and give the old tree another year's lease.

— PEAR MUSQUÉ D'AUTOMNE.—Whilst speaking of Pears, could any of your readers give me any information regarding the above-named Pear? We have a fine tree of it, which bears excellent crops of fruit each year; in fact, I always look upon it as one of our best early autumn Pears. The fruit is medium size, with rather rough skin, and of a beautiful pale yellow colour. It is a handsome fruit, and is just ripening. Not being able to find a history of it in any catalogue I possess, I have often wondered if it has been wrongly named. Any history of it would be valued.—R. P. R.

— THE WEATHER DURING SEPTEMBER AT RIPLEY, YORKSHIRE.—The weather during the first fortnight was very seasonable, fairly bright, accompanied by moderate wind, which raised our hopes high in regard to the ripening of late Grapes, and the wood of all fruit trees. But with the advent of the third week it settled down in the old groove, and rain fell almost daily to the end of the month. The total rainfall for the month was 1.81 inch, which fell upon seventeen days. Mean reading of barometer for month, 30.05; mean maximum temperature for the month, 64.9°; mean minimum temperature for the month, 44.6°; mean temperature for the month, 54.7°. Highest maximum temperature during the month, 79° on 11th; lowest minimum temperature during the month, 34° on 3rd.—J. TUNNINGTON.

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, FOR SEPTEMBER, 56 feet above mean sea level.—Mean temperature of month, 57.2°. Maximum on the 10th, 80.6°; minimum on the 24th, 36.7°. Maximum in the sun on the 9th, 133.1°; minimum on the grass on the 24th, 31.5°. Mean temperature of the air at 9 A.M., 58.5°; mean temperature of soil 1 foot deep, 56.9°. Temperature fell below 32° on grass on two nights. Sunshine—total duration in month 144 hours, or 38 per cent. of possible duration; we had only one sunless day. Total rainfall 1.07 inch; rain fell on fifteen days. Average velocity of wind 10 miles per hour, velocity exceeded 400 miles on six days, fell short of 100 miles on nine days. Approximate averages for September.—Mean temperature, 55.8°; sunshine, 110 hours; rainfall, 2.51 inch. A very dry and warm month, very similar to September of last year, but not so warm.—JOSEPH MALLENDER.

— TWO GOOD CABBAGE LETTUCES FOR SUMMER USE.—These are Continuity and New York, upon which I shall chiefly rely another

season. They are both of good quality, heart and blanch well, and stand longer than any others I have tried before bolting. In fact not one plant of the several batches of Continuity sown have run, and very few of New York; the latter, too, being the most crisp Lettuce I am acquainted with. For a frame supply we rely upon Hicks' Hardy White Cos and Hardy Hammersmith Cabbage. These are sown in August, and planted in the frames in September, from which we are enabled to cut a daily supply (after the outdoor ones are used) all through the winter. To succeed these, we sow in January in heat, transplant to a frame on a slight hotbed in February, and in this way were enabled last spring to cut serviceable Lettuces on April 16th.—J. T., Ripley, Yorks.

— TOMATOES AT NORMANTON PARK.—Although the past season has been far from favourable to the setting of Tomatoes outside, Mr. Gilbert has been very fortunate in securing an excellent crop from plants trained on the kitchen garden walls. Some fine clusters of beautiful even fruits are still hanging on the plants, which will have to be cut and taken inside to ripen. Mr. Gilbert's plan is to grow his plants in pots about 10 inches in diameter, plunged to the rim in the soil, as by so doing the plants seem less inclined to make gross shoots in wet seasons than when planted out, and consequently a better set of fruit is obtained; it is also much easier to assist plants in pots with stimulants when swelling their fruit. An even crop of Lady Downe's Grape is hanging in a late vinery, the colour and finish being splendid; the rods on which they are hanging are said to be nearly fifty years old, thus amply demonstrating the fact that there is nothing like old Vines for finishing black Grapes.—W. H. W.

— EREMURUS HIMALAICUS.—Mr. W. E. Gumbleton writes: "Allow me to congratulate you on the excellence of your woodcut of Eremurus himalaicus in the issue of October 1st. It is far the best representation of this fine plant and its habit of growth that has yet appeared, and as the first to bloom it in Europe in 1881 I welcome it. It has bloomed regularly without fail with me every year since, the only one of its family that can be relied upon to do so, and I think I possess every variety of the family that has been introduced and have bloomed most of them. They usually die after blooming or split up into a number of useless offsets, but E. himalaicus goes on blooming each May from year to year. The writer of your description, however, is hardly correct in saying that it bears a spike of small white flowers, as each individual pip is at least the size of a florin or 2s. piece. My friend and neighbour, Mr. J. J. Smyth, was the introducer of this fine plant to Europe by seed from India, though one of his seedlings which he gave me was first to bloom."

— THE FRUIT SHOW AT THE ROYAL AQUARIUM, WESTMINSTER, which opened on Wednesday and continues to-day and to-morrow, is excellent in all respects, and we regret that a full report cannot be given this week. For a collection of fruits of not less than twelve dishes, Mr. Peter Blair, Trentham Gardens, is first with twenty-eight dishes; closely followed by Mr. G. Reynolds, Gunnersbury Park Gardens, Acton; and Mr. C. Davies, Mote Park Gardens, Maidstone, all exhibiting extremely well. For a collection of Pears, Mr. C. Davies wins the premier honours, he is also first with eighteen dishes of Apples, grand fruits throughout, and is a prominent exhibitor in several other classes. Mr. C. Blick, Hayes Common; Mr. F. Bridger, Pershure Place; Mr. A. Wyatt, Hatton; Mr. G. H. Sage, Ham House Gardens, Richmond, also secure leading prizes in the other Apple classes; Messrs. Reynolds, Griffin, Davies, Iggulden, and Wilson contributing the best Grapes. Vegetables are well shown, especially for Messrs. Sutton and Sons' prizes, and the trade competing and non-competing exhibits from Messrs. J. Laing & Sons, Bunyard & Co., J. Cheal & Son, Wm. Paul and Son, J. Peed & Son, and R. Smith & Co. occupy considerable space. Many new Chrysanthemums were shown and certificated, to which reference will be made in another issue.

#### DAMSON BRADLEY'S KING.

THOUGH Bradley's King Damson was raised several years ago, it is what may be termed a comparatively new variety. The branch figured was cut from a young tree in the collection of a Kentish fruit grower of wide repute—Mr. A. J. Thomas, Bargains Hill, Sittingbourne. A dozen trees were first obtained for trial, and this having proved highly satisfactory, considerably more were planted.

The trees do not become clustered with fruit so soon as do those of the small Crittenden, Cluster, or Farleigh Damson, but still are more precocious than the Prune or Shropshire Damsons, and the fruit in



quality is superior to them all, for all are grown by Mr. Thomas, and have been tested in comparison.

That extensive, able, and successful cultivator of fruit prefers

compact, yet not spreading. Their growth in the stony soil was free without being rampant, and though all the branches were not so heavily laden as the specimen, the beautiful purple fruits could be gathered in



FIG. 67.—DAMSON BRADLEY'S KING.

Bradley's King to the Cluster or Crittenden, for two very substantial reasons. When asked what they were, he replied, "The Clusters cost much more in gathering than the Kings, and the Kings bring much better prices than the Clusters."

In habit the trees are all that can be desired, not very dense and

handfuls from five or six-year-old trees. Mr. Bunyard grows this variety extensively, and values it very highly.

On calling at Southwell recently some bearing trees of this Damson were observed in Mr. Merryweather's nursery, but the crop was light. It was there I found that this Damson was raised in an adjoining



village—Halam—by the late Mr. S. Bradley, the raiser also of Sir Joseph Paxton, Dr. Hogg, and other Strawberries. Mr. Bradley's death was recorded in this Journal a few months ago, and those Strawberries with this Damson are fitting memorials of his skill and care —J. WRIGHT.

### THE ROYAL HORTICULTURAL SOCIETY.

THE CONIFER CONFERENCE. — OCTOBER 7TH AND 8TH.

THE weather was not favourable for the gathering at Chiswick last week, and though the Exhibition was prolonged a couple of days the result was not satisfactory. On Wednesday afternoon the Conifer Conference was opened at 2 P.M. Dr. Maxwell T. Masters, who presided, delivered an address on the special features of interest in the order of Conifers. Noah's flood was a thing of yesterday compared with the antiquity of some Conifers. All available evidence went to show that we must look for the ancestry of the Conifers among some group now extinct, but which must have been very closely allied to existing Lycopods and Selaginellas. This presumption was based upon certain very remarkable peculiarities in the organs of fertilisation, pollen as well as ovula. There was other evidence dependent upon the generally admitted fact that the progressive changes in the development and growth of each living creature were the reflections of similar changes of growth in its ancestry. As to size, Conifers were as veritable sons of Anak. Only some of the Eucalypts of Australia could approach them in this particular. There were Sequoias close upon 400 feet in height, and *Pinus Lambertiana* and *ponderosa* not much inferior. At the other extreme, there were in New Zealand *Dacrydiums* smaller than our Poplar Willow. Daily did we in some way or another avail ourselves of the products of these trees. With the exception of the Scotch Pine, the Yew, and the Juniper, no species of Conifer was wild in this country. Our earliest records of the introducer of plants did not go beyond the sixteenth century. The Pinaster was known here in 1596, the Larch in 1629, and the Lebanon Cedar in 1664. John Evelyn was credited with the introduction of the so-called Cedar (*Juniperus virginiana*). From 1827 to 1833 Douglas startled the botanical and horticultural world by the number and importance of his discoveries in North-west America. The Douglas Fir, the Lambert Pine, *Abies amabilis*, *Abies grandis*, *Abies nobilis*, and the Menzies Spruce were among the introductions of Douglas. To the Royal Horticultural Society it must always be a source of legitimate pride that these magnificent discoveries, like those of Hartweg and Fortune at a later date, were made by officers of the Society. In this connection it was interesting to note that in introducing the *Araucarias* from Chili and Australia, the Sequoias and *Libocedrus* from the North-West Pacific, and the allied Cycads from South Africa and Australia, we were but bringing back plants that flourished at various epochs upon our own soil. Dealing with the prospects, he hoped that one result of the Conference would be the accumulation of evidence concerning the economic value of these introductions, especially of some of the most recent. The value of the Lebanon Cedar as a decorative tree, and of the Weymouth Pine was admitted, but in regard to others there was still doubt. Had not the Deodar disappointed expectations, and was the Douglas Fir likely to be of any great value? Again, considering the distressing failure of the Larch in many situations owing to attacks of a fungus, had we among newcomers any efficient substitutes? He ventured to think that there were several, as Lobb's Cypress (*Thuia gigantea*), the Lawson Cypress, the Red-wood (*Taxodium sempervirens*), the Nootka Cypress (*Thujopsis borealis*), the *Abies brachyphylla*, and some others of Japanese origin. It was to be feared that many of the Conifers were too precocious in this climate, and attained their full span of life much sooner than in their native land.

Mr. H. J. Veitch read a paper on Japanese Conifers, in the course of which he remarked that there were in Japan no fewer than forty-one species of Coniferae, of which a large number were indigenous. Mr. Edmund J. Baillie read a paper on the decorative character of Conifers. To a natural faculty for art he attributed the introduction of Coniferae which were now so much a part of our landscape decoration. Few classes of plants require greater care and judgment in arranging, and few, if any, were more effective. The Pine was the king of the woods, with its stately shaft, its splendidly balanced branches, and its crowned head of dense dark foliage standing back on the hill side. The Cedar, the Cypress, and the Yew had sharply defined characteristics and indescribable richness of colour. If Pines derived little interest and no decorature from inflorescence they had a distinct advantage in their cones, and their full magnificence in isolation might be seen in the pineta at Woburn, Chatsworth, Dropmore, and Bickton. So abundant was the choice for decorative purposes that it was very difficult to select. He would, however, name *Juniperus chinensis*, *Retinospora squarrosa*, *filifera* and *obtusata*, *Cupressus Lawsoniana* stricta and variegated forms, *Thujopsis dolabrata*, the red Cedar, and the Irish, Chinese, and Golden Yews. There was, he thought, ample room for the introduction of coniferous trees and shrubs in the purely ornamental parts of gardens. Papers were also read on "Conifers as Specimen Trees and for Landscape Gardening," by Mr. G. Nicholson; on "Conifers for Timber and in Plantations," by Mr. A. D. Webster; on the "Conifers at Bickton, Devon," by Mr. Mark Rolle; and on the "Conifers at Dropmore," by Mr. Charles Herrin.

On Thursday the Conference on Coniferae was resumed, Mr. W. T. Thiselton Dyer, Director of the Royal Gardens at Kew, presided, and in his address remarked that they had been able to get together an exhibi-

tion of Conifers unparalleled in completeness and extent. No one who had not travelled in Scotland could form any conception of the beauty and the perfection with which a large number of coniferous trees were cultivated in that country. There were in that part of the kingdom conditions of coolness and of atmosphere that were not to be met with in the southern parts of Great Britain. The result was that in Scotland one saw an enormous number of Conifers represented, not by the small specimens found on southern lawns and in southern arboreta, but by magnificent trees 70 to 100 feet high. In the south-east of England we could offer nothing equal to this. With the Pines, however, we were more successful, and even on the sterile and summer-burned soil of Kew they were able to have a tolerable collection of that species. But with regard to Abies, of which the Spruce is a type, they had in Scotland a state of things that we in England could not rival. In the south-west of England the conditions were more favourable. Here were many notable collections, and here, too, flourished the Mexican Pines or representatives of the family.

Mr. Malcolm Dunn spoke of the value of introduced Conifers from an economic and an aesthetic point of view. Exotic Conifers, he remarked, had played, especially during the present century, an important part in landscape decoration. To the explorations conducted by Douglas and Fortune under the authority of the Royal Horticultural Society, and to the researches of Veitch in Japan, we owed many trees, whose healthy progress gave promise of enduring beauty and usefulness. In all cases where Conifers had been planted with care in suitable soil the hardy species had grown up with a vigour that could scarcely be surpassed, even in their native habitat. A large number were useful forest trees, of which the timber might be used for constructive purposes. Among those introduced within the last hundred years he enumerated *Abies Albertiana*, one of the finest of Jeffrey's importations from the North-West of America; *Abies concolor*, a fine Silver Fir, introduced by Jeffrey and Lobb, and widely planted; *Abies Douglasii*, a grand tree in every respect, and of which there was on the Scone estate a specimen 91 feet 9 inches in height, and 12 feet in girth; *Abies grandis*, another Columbia giant in the front rank of Silver Firs; *Abies magnifica*, a promising tree in Scotland; *Abies Menziesii*, of which there was a specimen 96 feet 11 inches high at Castle Menzies; and *Abies nobilis* and *Nordmanniana*. Of Cypresses, he commended especially *Lawsoniana* and *macrocarpa*; and of *Pinus*, *insignis*, *monticola*, and *gigantea*. Dealing with the ornamental species, he pointed out the great width of the field of choice, and the great value derived from variety of colour, as well as freshness of life, when deciduous trees were leafless and resting.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters, in the chair; Mr. Morris, Mr. McLachlan, Mr. Blandford, Rev. C. W. Dod, and Rev. G. Henslow, Hon. Sec.

*Strawberries Attacked by Beetles*.—With reference to this subject, brought before the Committee at the last meeting, Mr. Blandford observed that the fact had been recorded before, and attributed to identically the same insects, so that it was very probably the same beetle in the present instance. The fact that the carnivorous beetles thus changed their habit to eat Strawberries reminded Mr. Dod of the interesting fact that squirrels would eat not only Mushrooms but even poisonous fungi.

*Primula rosea, mildewed*.—Mr. Dod exhibited plants, and observed that this species alone had been much attacked this year, and especially during the wet season after great thunderstorms in the last week of June. The specimens were sent to Dr. Cooke for further examination. Mr. Dod also added that he had tried many kinds of remedies for mildew this season, but with no very great success, the best being "anti-blight" and watering with sulphate of copper. *Iris reticulata* had been very badly attacked this year.

*Fog Report*.—Mr. Morris read a communication from Mr. Rix stating that Mr. G. H. Bailey, Secretary of the Town Gardening Committee of the Manchester Field Naturalists, had expressed the willingness of the Committee to work in conjunction with the Scientific Committee of the Royal Horticultural Society in the matter of "Air and Fog," and had applied for the grant of £50 placed at the disposal of the joint Committees by the Government Grant Committee.

The members of the Scientific Committee were unanimous in agreeing to the proposal of Mr. Bailey, as there was still a working balance from last year's grant to go on with.

*Polyporus fraxineus*.—Mr. Plowright forwarded a specimen, with the following observations:—"It was taken from an Ash tree near King's Lynn, which is being killed by this fungus. The tree is still alive, and bears a certain number of leaves, but will evidently succumb before many months. The fungus has attacked the base of the trunk near the ground, which is the usual site of its attack. *P. fraxineus* has hitherto not been generally regarded as a parasite by mycologists in Britain, but it clearly is a true parasite, capable of doing great damage to the trees it attacks. It is not one of the most common species with us. When once a tree is fairly attacked it is soon killed by the fungus." The question was raised whether the fungus be not rather a parasite in consequence of the previous unhealthiness of the tree, as is so often the case with other fungi, as Dr. Masters observed. Mr. Henslow added that *Polyporus squamosus* grows on a dying Horse Chestnut tree in his garden, but not on the healthy ones, from which it might be inferred that when that fungus occurs on Ash trees, as is so often the case, the probability was that the trees were unhealthy.

*Merulius lacrymans*.—He also sent fine specimens of this fungus,



the "dry rot," remarkable for the development of well-formed pilei. Such are seldom seen; they are flat, orange colour, and spreading over the cushion-like mass of the fungus.

*Apple Canker*.—Dr. Plowright also forwarded specimens of this condition; but as is usual in the advanced stage it is impossible to assign a cause; probably some ancient irritation having been set up, the organism having long since disappeared, the abnormal growth continued.



#### CHRYSANTHEMUM NOTES.

ONCE again has the season come round for to record the prospects of the Chrysanthemum. That there is no abatement in the interest they create is manifest from the many excellent collections to be seen on every side. What we should do without them throughout the dreary months of winter is a puzzle which would require a great amount of solving. The varied form of the flowers, combined with the gorgeous hues of some of the later introductions, and the lasting properties, stamps it at once to be the proud holder of the title "Queen of Winter." I have heard it said that the trouble taken to bring them to the highest state of perfection is more than they are entitled to, but I fancy the thought must pass away when they are confronted with a houseful of well-grown specimens. As with all other things successful, we forget in a great measure the labour which has been bestowed upon them when we reap the benefit. Here in Liverpool the early varieties are not so much grown, but Japanese and Incurved varieties are represented by all the finest varieties. The strong winds of the past month have robbed many growers of shoots which would have given flowers of the best quality. Japanese varieties are much about as usual, but incurved do not appear to be so good up to the present as they were last year. A great many new varieties are being grown, but it is yet too early to judge of the merits of any of them. I shall endeavour, with the aid of kind friends, to give some notes on the more noted collections here in the course of two or three weeks. Our Liverpool Show ought to be the best we have ever had, if we may take the excellent schedule as our guide. In addition to our ordinary prizes, we have this year two silver cups added, so that we may expect a lively time of it. The Treasurer, Secretary, and Committee are using every endeavour to make it a success, which I truly hope it will be.—R. P. R.

#### CHRYSANTHEMUMS AT LEWISHAM.

MR. H. J. JONES has made Chrysanthemums the leading feature at the Ryecroft Nursery, Hither Green Lane, Lewisham, and this season he will have a display that is certain to attract an even larger number of visitors than last year. Already one lean-to house or shelter, 100 feet long, is filled with early flowering varieties in excellent condition, and such a bright varied floral exhibition in the middle of October is a most agreeable surprise, well proving what useful plants these are for decorative purposes. In the structure named the plants are arranged to form a bank sloping to the path at the back, and with a large general selection of the most effective early Japanese varieties of proved merit, such as W. Holmes, Madame Desgranges, and its forms; some scores of novelties are included, many of which are very promising, the colours distinct, the habit free, and the blooms of good substance. We cannot enumerate these in the present issue, but shall take an early opportunity of referring to the best amongst them, for a large proportion bid fair to take a prominent place in the section.

The plants for the November display are all under cover, and form a fine bank over 100 feet long and about 20 feet wide, nearly filling a spacious lofty light span-roofed house admirably adapted for a show of this character. The plants are in first-rate condition, vigorous, healthy, well clothed with rich green foliage, dwarf and showing substantial buds of an extremely promising appearance. Mr. Jones thinks the season likely to prove very favourable to the incurved varieties, as all his plants of "the Queen family" are very satisfactory, and he rightly considers that excessively hot dry summers are by no means what these varieties require. Chrysanthemum growers and lovers who take the round of the nurseries and gardens during the next few weeks will find ample to interest them in the Ryecroft Nursery, which is easily reached from Ladywell or Lewisham stations on the South-Eastern line from London Bridge or Cannon Street.

#### THE USE AND ABUSE OF WATER.

UNDER the above head, at page 305, in the last issue of the Journal, appears a letter by a correspondent—"Yorkshire Bite"—taking exception to an extract of a paper by me recently read at Preston. I am not sorry "Yorkshire Bite" has made reference to a few points, one or two of which certainly have been incorrectly reported, thus causing a wrong impression.

I think, however, your correspondent has stepped outside the limit of prudence by disputing my practice, and questioning my opinion of young gardeners before ascertaining whether I had any explanation to

offer upon the points raised. Let me assure him that watering Heaths with the syringe is just as "new" to me as to himself, also the syringing of Peaches when ripening; no such lines of procedure have been laid down or in any way advocated by me.

I have advised a light syringing upon softwooded Heaths while breaking and developing new growth each year for a short period, for Epacris also, and to this practice I adhere. If "Yorkshire Bite" has not made the acquaintance of hardwooded plants that have been ruined by mistakes in watering it does not follow that I have not.

In respect to my opinion of young gardeners, I may inform your correspondent that he could not, if he desired, point to any place in the kingdom where young men work more ardently or with a deeper sense of respect than they do with me. Doing our best for each other, and to make as far as possible the duties of life a pleasure, is the order of things here.

In respect to my treatment of Peaches, your correspondent may yet learn that many fruit borders, both of Peaches and Vines, are much too liberally watered. This applies more particularly to forced trees than to later and successional houses. I have satisfied myself long ago on this point, not from theory, but by results, which have been approved by high practical authority.

"Yorkshire Bite" apparently is endeavouring to under-rate my system of Peach culture by informing your readers that an early house has produced several fruits of nine and ten ounces. Good Peaches I grant, but how many or how few did the tree produce? I will quote one result out of many as the result of my treatment. One day I gathered sixty fruits from an early house, the fruits weighing from eight to eleven ounces each, three turned the scale at the higher figure. These fruits formed part of the dessert at a Mayor's banquet in honour of a visit by the Prince of Wales to a provincial town.

With these few observations I leave the subject to the discretion of readers, feeling that your correspondent would probably have made a more successful "Bite" at an eleven-ounce Peach than he has at my reading.—A. WATERS.

#### FRUIT AT THE MANSION HOUSE.

THE Court of the Fruiterers' Company made their annual presentation of fruit to the Lord Mayor on Wednesday the 7th inst. The drawing-room of the Mansion House, where, in accordance with custom, the ceremony was performed, was well filled by an influential company of ladies and gentlemen, including many members of the Fruiterers' Company and their ladies. The presentation fruit adorned the table, and, of course, attracted considerable attention. It was of the choicest description, and was all English grown—a fact which those who saw it must admit dispels the idea entertained in many quarters that really good fruit cannot be grown in this country. A portion of it had been, as Sir James Whitehead afterwards announced, grown within the sound of Bow Bells—and, in fact, in Sir James's own garden.

The presentation was made, on behalf of the Fruiterers' Company, by Sir James Whitehead, who said that as Master of the Company for this year, and in accordance with ancient custom, it was his privilege to present to his Lordship the usual offering of the Company. In past years the ceremony had been more or less of a formal nature, but within recent years it had had attached to it associations of a very practical character. Each Lord Mayor during the last three or four years had more or less given a portion of his time and his influence in the promotion of what the Fruiterers' Company felt to be a great national object, and they were very glad to recognise that the Lord Mayor had this year given them the weight of his personal character and the weight of his office in the furtherance of their scheme.

The Lord Mayor, in reply, said he accepted with great pleasure the magnificent present which the Company had offered to himself and the Lady Mayoress that evening. They looked with wonder and amazement on the beautiful samples of fruit which adorned that drawing-room. He understood that a dish which was immediately before him contained specimens from Sir James Whitehead's own garden, grown within the sound of Bow Bells, and he thus had given practical proof of what it was possible to do in one's own garden, if only attention and skill were bestowed upon the trees. He again tendered the Company the warm thanks of himself and the Lady Mayoress for their magnificent and bountiful present.

The Lord Mayor and Lady Mayoress afterwards entertained the Fruiterers' Company and the General Purposes Committee at dinner in the Egyptian Hall. The company present included:—Lord Brassey and Lady Brassey, the Master of the Fruiterers' Company (Alderman Sir James Whitehead, Bart.) and Lady Whitehead, Mr. Warden Brocklesbury and Mrs. Brocklesbury, Mr. Warden Martin and Miss Martin, the Chairman of the General Purposes Committee, Mr. H. R. Williams, P.M., Mr. J. Eagleton (Clerk of the Fruiterers' Company), and about 250 others, including Sir Trevor Lawrence, Bart., M.P., Rev. W. and Miss Wilks, Mr. P. and Mrs. Crowley, Mr. N. N. Sherwood, Mr. T. Francis and Mrs. Rivers, Mr. Cheal, and Mr. and Mrs. J. Wright, Mr. G. Bunyard being unable to attend through illness. The loving cups having been circulated, and the loyal and patriotic toasts honoured with the customary enthusiasm,

The Lord Mayor then submitted "The Houses of Lords and Commons," and Sir Trevor Lawrence, in replying for the latter House, observed that the Royal Horticultural Society, of which he was President, had taken the greatest interest in the work, which had been so admirably and so praiseworthy prosecuted by the Fruiterers'



Company, under the very able guidance of Sir James Whitehead their Master. Having mentioned that the Royal Horticultural Society had recently issued, at the smallest possible cost, a pamphlet on the subject of hardy fruit culture, he expressed the belief that the great want of the present day was to bring the producer into direct contact with the consumer. If this were accomplished it would, he thought, give a great impetus to fruit growing throughout the country.

The Lord Mayor next proposed the toast of the evening, "The Worshipful Company of Fruiterers." He said that by an ancient and much-valued custom, it had been the practice from time immemorial for the Lord Mayor for the time being to receive from the hands of the Fruiterers' Company some baskets of the choicest fruits of the season, and the Lord Mayor had had the privilege subsequently of entertaining the Fruiterers' Company. That custom had grown up from year to year, but of recent years it had developed considerably owing to the activity and the energy displayed by one who preceded him only two or three years ago in the civic chair, Sir James Whitehead. During his year of office he conceived a great desire to promote fruit-growing in England, and he displayed so much enthusiasm on the subject that he was elected first on the Court, and subsequently—he believed at the same time—Master of the Fruiterers' Company. No doubt many who had preceded him had been interested in the subject. But he believed that the great advance which had been made in fruit-growing during the past and the present year was greatly owing to the energy and the determination of his friend Sir James Whitehead. The object of the Company of which he was the Master was to promote fruit-growing throughout the land. When they looked at the fruit on their tables and in their gardens, speaking, as it did, so beautifully and yet so silently of the love of that Creator who had sent it as a blessing to mankind, surely it reminded them that they had often forgotten their duty in cultivating that which He had given them for their benefit and for their use. He believed that we had in England gardens which were as good as those of any nation in the world. He believed we had as good soil as any other country possessed. It only needed care and attention to bring our fruit trees to perfection, and he believed that if they gave that attention to it their efforts would be crowned with success. He rejoiced to think that the efforts of the Fruiterers' Company were being seconded in various directions by the Royal Horticultural Society, and also by the Gardeners' Company, which had recently aroused itself to a state of activity.

Alderman Sir James Whitehead, in response, said, it was to him a very great pleasure to be associated with the Fruiterers' Company at a period in its existence when it was probably doing more active and useful work than had ever been performed by the Company in its previous career. The efforts of the Fruiterers' Company just ended were mainly of an educational character, and it was satisfactory to them to feel that in the work they were endeavouring to perform they not only had the countenance, and the assistance also, of the Royal Horticultural Society—represented that evening so ably by Sir Trevor Lawrence—but also of the British Fruit Growers' Association, many members of which were also present with them. He ventured to say to Sir Trevor that something more was wanted in the promotion of fruit culture than the issue of pamphlets. So far as his observation went it was necessary in different localities to give not only educational instruction, but object lessons also. And in the promotion of that idea the Fruiterers' Company propose from time to time to hold exhibitions in various parts of the country, and he thought it not at all unlikely that next year, when their position was more consolidated than it was at the present time, it would be found that they would hold an exhibition either at Bath or Chester, or some other great centre, which would not be inferior in any degree to that which brought so much honour to the Fruiterers' Company last year.

It must be gratifying to all present to know that the first step had been taken in this country with a view to giving instruction in horticultural science in the public schools of this country. At Sewardstone, in Essex, Mr. Melles, a member of the Fruiterers' Company, had been the means of inducing the Government to consent to the teaching of horticultural science in the school of that village, and thus the elements of horticultural science were laid in that district, and a step taken which would lead to very great results in our rate and State supported schools throughout the entire country. The advantage, no doubt, would be the development of the resources in each district in which that education was given, and it would be no disadvantage whatever to the schoolmaster who gave such instruction, inasmuch as he would be able to earn the same grant for the teaching of those sciences as he now did for the teaching of art and science, for which he took a grant from the Government. The Fruiterers' Company felt that so far as the experts and those who were engaged in the country were concerned no education whatever was needed. But they did aim at this, their primary object, the education of the farmers and cottagers of the country in the cultivation of this article of food. The Company would endeavour, as far as it could, to teach them to grow fruit, first for use in their own families, and secondly, if they had a surplus, to send to market with a view of making a profit from it. But a great deal had to be done in this country before the farmers and cottagers would realise any profit from the growth of fruit. Foreign countries were far ahead of us in sorting and packing, and in the technical knowledge which was essential to the growth of various kinds of fruit. But the Company felt that if the farmers had regard to the cultivation of fruit, and showed the same skill and perseverance as they did in the cultivation of corn and other agricultural products, they would achieve results which would be satis-

factory to the country at large, and more particularly to those who engaged in the pursuit. They were aware that there were many great difficulties to be overcome before they could place themselves on a footing of equality with foreign countries.

A subject which deeply affected the profits connected with fruit culture was the manner and the cost of distribution. So far as the Company had been able, it had through the Mansion House Association on Railway Rates done all that within them lay in order to ensure the distribution of fruit in the future being cheaper and quicker than it had been in previous years. It might be in the course of a little while that the railway authorities and the new Postmaster-General would see their way clear to make some modification in the charges for conveyance, which would bring the producer and consumer, so far as small quantities were concerned, into immediate contact. To all these subjects the Fruiterers' Company were giving their very serious attention, and he could assure them that all they had seen in the course of their researches during the past two or three years confirmed them in the belief that they were going on a line which would lead to great advantages for the country. They would travel on in the fulfilment of their self-imposed task in the conviction that they were conferring an advantage upon those who engaged in the culture of fruit, that they were doing a great national service, and something to promote the national prosperity and the national welfare.—(*City Press*.)

## THE CRYSTAL PALACE HARDY FRUIT SHOW.

OCTOBER 8TH, 9TH, AND 10TH.

THE annual display of hardy fruits at Sydenham, which opened on Thursday last and was continued until Saturday, proved one of the best that has been held there for many years. In all it was estimated that nearly 3500 dishes of Apples and Pears were staged, this representing about double the number of entries ever received at any previous Show. This was highly satisfactory, but was to some extent expected, as the crops of Apples are generally good in the south.

The exhibits were arranged on long tables, which occupied considerable space. The open classes for large collections were very important, and comprised some exceedingly handsome specimens. Messrs. G. Bunyard & Co., Maidstone, were very successful, and contributed grandly in several classes. For the best exhibition of Apples, kitchen and dessert varieties, six fruits of each variety, not to exceed 100 dishes, orchard house fruit excluded, the firm just named won first honours for large bright handsome specimens of all the leading varieties, the following being very notable:—Ecklinville, Worcester Pearmain, The Queen, Mère de Ménage, Lane's Prince Albert, Alfriston, Stirling Castle, Loddington, Bismarck, Calville Rouge Précoce, Gloria Mundi, Lady Sudeley, Lady Henniker, Warner's King, Peasgood's Nonesuch, Duchess of Oldenburg, Emperor Alexander, Northern Dumpling, Gascoigne's Seedling, Grenadier, Cellini, Pott's Seedling, Cox's Pomona, Fearn's Pippin, and Lord Suffield. Mr. C. G. Slater, Devon Nursery, Heavitree, near Exeter, was a good second, staging many very fine fruits. Mr. J. Watkins, Hereford, was third; and Mr. H. Berwick, Sidmouth, was fourth, both with praiseworthy collections. In Class D, for the best collection of Apples and Pears, orchard house grown, Messrs. G. Bunyard & Co. were the only exhibitors, and were awarded the first prize for extremely fine specimens, representing a selection of the best varieties.

Another open class was provided for the best collection of Pears, six fruits of each variety, and not to exceed fifty dishes, orchard house fruit excluded. Here Mr. G. Goldsmith, gardener to Sir E. Loder, Bart., Leonardslee, Horsham, won a great victory amongst nine competitors, taking premier honours for about fifty dishes, which included beautiful fruits of Beurré d'Amanlis, Beurré Diel, Beurré Hardy, Louise Bonne of Jersey, Nouveau Poiteau, Pitmaston Duchess, Madame Treyve, Souvenir du Congrès, Grosse Calebasse, Glou Morceau, Doyenné du Comice, Fertility, and Josephine de Malines. Mr. Woodward, gardener to R. Leigh, Esq., Barham Court, Maidstone, was a good second; Messrs. Bunyard & Co. third; and Messrs. J. Cheal & Sons, Crawley, fourth.

Turning to the amateur classes, we found similarly good exhibits—in fact, in one case perhaps better than the others. This was in the class for fifty dishes of Apples, distinct varieties, where Mr. Woodward took the leading position for a magnificent collection of large even fruits. The varieties were as follows:—Bedfordshire Foundling, Golden Noble, Kentish Fillbasket, Loddington, Blenheim Pippin, Royal Russet, Ecklinville, New Hawthornden, Wealthy, Lord Derby, Flower of Kent, Annie Elizabeth, Tower of Glamis, Gascoigne's Seedling, Brownlee's Russet, Bismarck, Ribston, Northern Dumpling, Alexander, Minchal Crab, Cornish Aromatic Pippin, Cox's Orange Pippin, Tyler's Kernel, Alfriston, Lincoln Pippin, Brabant Bellefleur, Queen Caroline, Peasgood's Nonesuch, Reinette de Canada, Duchess of Oldenburg, Warner's King, Calville Malingre, Pott's Seedling, Grenadier, Cox's Pomona, Mère de Ménage, Belle Dubois, Yorkshire Beauty, Stirling Castle, Lord Grosvenor, Golden Spire, Cellini, Washington, Waltham Abbey Seedling, Lady Henniker, The Queen, Worcester Pearmain, Lord Suffield, Lane's Prince Albert, and an unnamed variety. Mr. G. Goldsmith followed closely, and Mr. A. Waterman, gardener to H. L. C. Brassey, Esq., Preston Hall, Aylesford, Kent, was third amongst four exhibitors.

With twenty-four dishes of Apples Mr. Waterman was more successful, securing the first prize with large fruits of Alfriston, Yorkshire Greening, Ribston Pippin, Mère de Ménage, Brabant Bellefleur, Cellini, Gloria Mundi, Tyler's Kernel, De Neige, Lord Derby, Stirling Castle, Queen Caroline, Tower of Glamis, Bismarck, King of the Pippins, Worcester Pearmain, Blenheim Pippin, Peasgood's Nonesuch, Warner's



King, Dumelow's Seedling, Gravenstein, Gascoigne's Seedling, Loddington, and an unnamed variety. Mr. G. Reynolds, gardener to the Messrs. Rothschild, Gunnersbury Park, Acton, was a capital second, and Mr. T. W. Startupp, West Farleigh, Maidstone, was third.

There were also four competitors in the class for twenty-four dishes of Pears, Mr. G. Woodward leading with excellent specimens of Glou Morceau, Durondeau, Gansel's Bergamot, Beurré Diel, Conseiller de Cour, Doyenné du Comice, Marguerite Marillat, Nouveau Poiteau, Pitmaston Duchess, Marie Louise, Reine des Tardives, Triomphe de Vienne, General Todtleben, Bellissime d'Hiver, Louise Bonne of Jersey, Duchesse d'Angoulême, Doyenné Boussoch, Beurré Hardy, Beurré Superfin, Princess, Gregoire de Bourdillon, Beurré d'Amanlis, Fondante du Pansel, and an unnamed variety. Mr. Waterman was second, and Mr. T. H. Crasp, Canford Manor Gardens, third.

The best twelve dishes of Pears were shown by Mr. G. Goldsmith, who had the undermentioned varieties in fine condition:—General Todtleben, Louise Bonne of Jersey, Beurré d'Amanlis, Duchesse d'Angoulême, Doyenné Boussoch, Marie Louise d'Ueele, Pitmaston Duchess, Souvenir du Congrès, Marie Louise, Beurré Diel, Rivers' Princess, and Doyenné du Comice. The second place was taken by Mr. R. Smith, gardener to Lady F. Fletcher, Kenwards, Yalding, who had especially fine fruits of Triomphe de Vienne, Souvenir du Congrès, Pitmaston Duchess, Calebasse Grosse, and Doyenné du Comice. Mr. W. Cotterell, Oxon Hoath, Tunbridge, was third. The entries in this class were very numerous, no less than fourteen collections being shown.

In the corresponding class for twelve dishes of Apples there were the same number of entries. Mr. F. Bridger, The Gardens, Penshurst Place, Kent, securing premier honours for admirable fruits of Bismarck, Queen Caroline, Cox's Orange Pippin, Warner's King, The Queen, Emperor Alexander, New Hawthornden, Worcester Pearmain, King of the Pippins, Wealthy, Grenadier, and Glory of England. The second and third prizes were accorded to Mr. S. H. Goodwin, Mereworth, Kent; and to Mr. T. S. P. Thompsett, Grove House, Hadlow, Kent.

Messrs. G. Bunyard & Co. offered prizes in two classes for the best flavoured Pears (three dishes) and the best flavoured dessert Apples (six dishes), and the competition was very good in both cases. The prizes were awarded as follows:—Pears.—Mr. W. A. Cook, Compton Bassett, Calne, Wilts, first; Mr. G. Woodward, gardener to R. Leigh, Esq., Barham Court, Maidstone, second; and Mr. F. A. Hicks, gardener to A. Cushny, Esq., Pain's Hill Park, Cobham, third. Dessert Apples.—Mr. W. Tayler, Osborne Nursery, Hampton, first; Mr. F. Bridger second; and Mr. J. T. Barney, gardener to W. Bryant, Esq., Hurstdown Cottage, Boxley Road, Maidstone, third.

An extensive show of vegetables was provided in several classes, and the quality was so uniformly good that the Judges had considerable difficulty in determining the awards. The principal class for which the Crystal Palace Company offered the prizes was that for best exhibition of vegetables, arranged for effect, and not more than four dishes (distinct) of any sort; and in this Mr. C. J. Waite, gardener to Colonel the Hon. W. P. Talbot, Glenhurst, Esher; Mr. W. Palmer, Thames Ditton House, Kingston-on-Thames; Mr. W. Salmon, Ivy Cottage, Elder Road, West Norwood; and Mr. J. T. Barney, gardener to W. Bryant, Esq., Hurstdown Cottage, Boxley Road, Maidstone, were successful in the order named, Mr. Palmer having arranged his collection very tastefully. In the other class for twelve dishes of vegetables, not more than two dishes of any variety, the prizes were secured by Mr. Thomas Wilkins, gardener to Lady Theodore Guest, Inwood House, Henstridge, near Blandford; Mr. W. Pope, The Gardens, Highclere Castle, Newbury; and Mr. J. Friend, gardener to the Hon. P. C. Glyn, Rooksnest, Godstone.

The Veitch Memorial prize of £5 and a medal was also offered for a collection of twelve kinds of vegetables, and amongst five competitors Mr. C. J. Waite succeeded in winning the coveted honours with Prize-taker Leeks, Ailsa Craig Onions, Ne Plus Ultra Beans, Sulham Prize Celery, Autumn Giant Cauliflowers, Glenhurst Favourite Tomato, Exhibition Sprouts, Intermediate Carrots, Student Parsnips, Satisfaction Potatoes, Pragnell's Exhibition Beet, and fine Turnips.

The special prizes offered by Messrs. James Carter & Co. for the best collection of vegetables, six distinct varieties, were won by Mr. Thomas Wilkins, Henstridge, near Blandford; Mr. C. J. Waite; and Mr. W. Pope.

Messrs. Sutton & Sons also present valuable prizes in the following classes, which were won by the exhibitors named. For six dishes of Potatoes, nine tubers to form a dish, to consist exclusively of varieties bearing Messrs. Sutton's name in their "Amateurs' Guide for 1891":—Mr. E. S. Wiles, Edgecote Gardens, Banbury; Mr. Jas. Simkins, Shillington, near Hitchin; Mr. W. Pope, Newbury. For three dishes of Potatoes, nine tubers to form a dish (same conditions):—Mr. R. Lye, gardener to W. H. Kingsmill, Esq., Sydmonton Court, Newbury; Mr. F. Peckover, Wardington, Banbury; Mr. C. W. Howard, Bridge, Canterbury.

The non-competing exhibits were very numerous and interesting. Messrs. J. Veitch & Sons, Chelsea, had about 180 dishes of Apples and 120 dishes of Pears, besides twenty-four dishes of Plums, all represented by fine fruits. Messrs. T. Rivers & Son, Sawbridgeworth, had an important and beautiful exhibit of fruit trees in pots, together with specimens of their special varieties. Messrs. J. Laing & Sons, Forest Hill, showed a large collection of handsome Apples and Pears. Messrs. J. Peed and Son, Tulse Hill and Streatham, also had a good collection of Apples, comprising about 120 dishes of select varieties. Messrs. Wm. Paul & Son, Waltham Cross, exhibited Apples and Pears extensively, together with Roses, Asters, and hardy flowers, as also did Messrs. J.

Cheal & Son, Crawley (who also had single and Show Dahlias tastefully arranged). Messrs. G. Bunyard & Co. had Apples, Pears, Plums, Grapes, Figs in pots, Tomatoes, and Peaches—a very effective exhibit. Mr. R. O. Smith, gardener to G. Taylor, Esq., Reigate, showed four dishes of fine Peaches. Mr. F. Michener, Avenue Road, Anerley, sent a collection of Apples and Pears grown in the district, and Messrs. R. Smith & Co., Worcester, exhibited Apples, Pears, and Plums, the Purple Prolific being a notable variety among the latter.

### CUPHEA LLAVÆ.

Most of the Cupheas are singularly attractive owing to the peculiar form of their flowers and the distinct colouring. Some also are useful plants for pots and borders, notably *C. platycentra*, which is still a favourite with many. The species, of which a flowering spray is depicted in the engraving (fig. 68), has been brought into notice much more recently, but is well worthy of a place amongst interesting plants of this character. Messrs. Pitcher & Manda of Hextable, near



FIG. 68.—CUPHEA LLAVÆ.

Swanley, exhibited plants at the meeting of the Royal Horticultural Society on September 22nd this year, when a botanical certificate was awarded for it, and it attracted some attention. As shown the plants were 9 or 10 inches high with elliptical acute leaves; the flowers have long green and reddish-ribbed tubular calyxes, covered with dark hairs; the petals relatively small, brilliant scarlet, each with a black spot at the base; and the stamens are covered with long purple hairs. The plant seems well adapted for culture in pots in a cool house.

### STANTON-IN-PEAK.

A DRIVE through these fine old Derbyshire woods and Miss Thornhill's beautifully undulated park was an unexpected treat last week, Mr. Henry Taylor, the courteous estate agent, pointing out some of the Derbyshire wonders, such as Robin Hood's stride, a most remarkable mass of rock, and the historical Router rocks. The house is approached by lodges from the Haddon Road and Winstan Road, driving through woods with two inner lodges as you enter the park. But my main object was to see the gardens, where I found the glass houses in admirable condition, very clean, and everything looking well. A range of vineries, 120 feet long inside the walls,



proved that not only good Grapes could be grown, such as Mrs. Pince, with rods carrying sixteen bunches averaging 3 lbs., and other good varieties. A first-rate lot of plants grown under the Vines speak for themselves, as Mr. Geo. Harvey has taken leading honours at Bakewell with them. *Clerodendrons*, *Allamandas*, well flowered, are samples, choice Ferns, very fine specimens of Double Zonals having immense trusses. The Vines above are not crowded, and they are kept well under. A fine crop of Tomatoes covers the back walls, one section devoted to greenhouse plants, with Peaches on the back wall, had a specimen of Rose Maréchal Niel planted in April, with rods 20 feet long; an Orange, carrying fifty ripe fruits, very fine; also quantities in other stages; *Lilium lancifolium*, with 150 flowers; *Vallotas* in 5-inch pots, with nine spikes, five flowers to the spike; and remarkably dwarf good *Chrysanthemums*, well budded, occupied some of the walks, but unfortunately suffered from recent winds.

Plums and Pears on the walls were good. British Queen Strawberry has a home here, and succeeds remarkably. Mr. Harvey keeps up yearly plantations. The flower garden has a stock of good old plants. Fine seedling Carnations, and a large bed of various Poppies, intermingled with *Chrysanthemum segetum*, 8 yards by 30 yards, had a fine effect. A conservatory in the flower garden was also very gay with *Chrysanthemum Madame Desgranges*, excellently grown. From this you approach the house, a selection of hardy flowers bordering the walk. A good plant house in partitions for growing room plants had a choice collection, very healthy and clean, and there is a number of frames well stocked. One of the most essential accessories just added is a cemented tank, with pump for draining the stables, &c., completing a good garden, and well managed under Mr. Harvey's care.—GEORGE BOLAS.



#### FRUIT FORCING.

**VINES.**—*Renovating Vine Borders.*—Though Vines thrive for an almost indefinite period in a soil suited to their requirements and where they have a good extent of rooting area, as may be seen at Hampton Court; Cumberland Lodge, Windsor; Manresa House, Roehampton, and other places, all natural soils are not suited to the growth of Grapes, and borders have to be made, and these in time renovated or renewed as the soil becomes effete.

There is nothing equal to turfy loam as an encourager of Vine roots except leaf soil, the loam having rich stores of nitrogenous elements, and the leaf soil replete with potassic substances and humus. Turf, however, may and often does settle into a close mass unfavourable, through lack of disintegrated mineral matter, to keep it open as a rooting area. Then turf, which, by containing particles of sand, limestone, and other rocks would keep porous, is often converted into a close soapy mass by a too liberal admixture of manure and vegetable refuse; but the most frequent need of renewing Vine borders is occasioned by heavy mulchings of stable manure and immoderate applications of liquid manures, particularly of that class which leave a considerable deposit. These deposits fill the interstices of the soil, and by so doing exclude the oxidising influences of the atmosphere, and the soil becomes sodden and sour. This is well known to experienced growers, and instead of soaking the borders with liquid manure, as in watering, they bring the soil into a healthfully moist condition with water, and then apply the liquid manure, by which process the thicker particles of matter in the liquid are kept at the surface and the interstices of the soil are not soon choked. When thick liquid is poured on parched and cracked borders the soil slowly but surely becomes choked with the settlements of the liquid manure. Soil must have air—atmosphere essentials for the conversion of its constituents into available plant food. This is the art of applying liquid manures which contain sedimentary matter, and their abuse is one of the most frequent reasons why the surface soil has to be so often removed from the border and fresh loam added. Want of proper drainage and improperly constructed borders are causes of unhealthy Vines and unsatisfactory crops.

These Vines are not sturdy in growth, produce long jointed wood, thin flabby foliage, bunches that twist and curl instead of developing, and Grapes that shank. No time should be lost as soon as the leaves change, and whilst they are still upon the Vines, in removing the soil down to the roots and picking it from amongst them, so that as much fresh soil as possible may be placed around and over them. If the border is very unsatisfactory and the roots deep and few, it will be necessary to remove all the soil and make a new border, commencing with drainage which may be formed of clean rubble 9 to 12 inches thick, brickbats answering well, placing the roughest at the bottom and the smallest at the top, and over this 3 inches thickness of old mortar rubbish or chalk, preferably weathered—i.e., subjected to frost and air for a year. The border must have 4-inch tile drains, so as to keep the drainage free from stagnant water. Two feet in depth of soil is ample, turfy loam off alluvial soil, or calcareous that grows good Clover, is most suitable, and preferably moderately strong, but not heavy, though that overlying clay is preferable to turf overlying sand. Good friable loam answers

well, especially if rather strong and interspersed with flints, such as occur on limestone formations.

The turf should be broken up roughly, and if heavy add a sixth of old mortar rubbish, with a similar proportion of road scrapings; if light add a fourth of clay marl, dried and pounded, incorporating all well together. Lift the roots carefully, keep them as much as possible from the drying influences of the air, shading the house, keeping it close, and the roots in damp mats, but perform the work with as much dispatch as possible. Lay the roots out evenly in the top foot of soil, encouraging those from the collar by laying any that proceed therefrom only just beneath the surface. The whole should be made firm, and the compost be moderately dry. Afford a good watering with tepid water; mulch the surface with a little short material, preferably fresh stable manure with the straw shaken out. Outside borders should be covered with a few inches of leaves and a little litter to prevent the leaves blowing about. Sprinkle the Vines occasionally and admit air moderately for a time, then freely, and they will break well the following season. The lifting must not be done until the main leaves give indications of falling, but a few laterals with immature foliage will assist root formation.

When the surface soil only is removed, and the soil picked out from amongst the roots, operations may commence earlier, for the Vines will have some roots undisturbed, and those lifted and supplied with fresh soil will push rootlets sooner and more abundantly through the foliage being active. If the roots are inside and outside one part may be done one year and the other the next without any danger of loss of crop the following season.

#### THE FLOWER GARDEN.

*Potting Plants.*—Before these lines are in print frosts will in some places have left a black mark on the tender occupants of beds and borders, and in some cases this ought to have been anticipated by taking up any it is desirable should be saved for propagating or other purposes. If not too late, the requisite number of Coleuses, *Alternantheras*, *Iresines*, *Mesembryanthemums*, and similar plants should be lifted at once. Remove much of the soil from the roots, as this is liable to sour badly, and pot singly, using a rather light compost and not very large pots, those which can be packed on shelves being the best. Place all the heat-loving kinds in a warm house at once, and water carefully both now and for some time to come. *Heliotropes* do not lift readily, but the attempt should be made if there are none already well established under glass. *Ageratums* are even more difficult to recover, and with such excellent strains available it is not advisable to pot *Lobelias*, the required number of plants being the most simply raised from seed sown now or early next February. Tuberous *Begonias* lift readily enough, but fail to flower directly dry frosty weather is experienced, and these therefore may well be stored thickly in boxes, only a little soil being moved with the balls. There is no good reason why they should not be left where they are till frosts cut down the tops. Keep them, when lifted, in a cool dry place, giving additional protection in frosty weather. Several of the fibrous-rooted *Begonias*, including *Carrierei* and *semperflorens*, make excellent bedding plants, and these, if potted before frosts blacken them, and placed in a warm light greenhouse, will flower freely throughout the winter. *Marguerites* pot readily, and large plants will be found serviceable for conservatory and house decoration. The same remarks apply to *Abutilons* generally, and the attempt should also be made to lift late flowering *Gladioli* and *Asters*. Some of the *Dahlias* are now at their best, and would be useful in conservatories till *Chrysanthemums* are more plentiful. They lift fairly well out of moderately light soils. *Chrysanthemums* move readily, even if in full flower, but care should be taken not to unduly reduce the size of the balls. At the same time do not try to move large balls of soil with the roots, or great lumps of it may break away, carrying the roots with it. The safest plan is to pot them on the ground where growing. A slightly heated greenhouse is the best position for the plants. Keep them well supplied with water, syringe frequently on clear days, and afford shade from bright sunshine. A portion of the plants might well be moved to the foot of sunny walls where they can be readily protected with mats. Zonal *Pelargoniums* will stand a little frost, but are of little value now in the flower garden; therefore fork all up that are to be saved, taking particular care of the bronze, silver, and tricolor sections. Lightly reduce the length of roots, and pick off all the old leaves prior to packing the plants thickly and firmly in boxes or pots of loamy soil. Keep them on the dry side throughout the winter, and frost being kept out of the houses abundance of good cuttings ought to be available next spring.

*Bulbs for Spring Flowering.*—Fresh stocks of *Hyacinths*, *Tulips*, *Narcissi*, and *Scillas* have always to be bought, the old bulbs or those that spring from them rarely flowering at all well the second year. Nor do *Crocuses* and *Snowdrops* move well, the best effect in the two latter instances being obtained with the aid of undisturbed roots. All, however, can be bought at much cheaper rates than is the case with bulbs to flower in pots. Order and plant early; the *Hyacinths* and *Narcissi* 9 inches apart each way, and 4 inches deep; and *Tulips* 6 inches apart, and also 4 inches deep. Double or triple lines of *Scillas*, *Crocuses*, and *Snowdrops* are needed to make anything like a good show, and the bulbs of these may be from 3 inches to 4 inches apart each way, and 3 inches deep. If preferred the bulbs generally might be interspersed among the dwarf shrubs, Conifers, and flowering plants, but if they have beds to themselves these may well be surfaced over with short branches of *Aucuba*, *Hollies*, *Ivies*, *Box*, and such like, arranged in masses and lines.



Having their ends thrust into the beds these short tops will present a neat and fairly attractive appearance during the duldest part of the year.

## THE BEE-KEEPER.

### APIARIAN NOTES.

SINCE bringing my bees from the moors the weather has continued wet and stormy, considerably delaying preparations for the winter. On overhauling my hives I was surprised at the singular failure of the queens of stock hives to become fertile. There is only one swarmed stock hive that has a fertilised queen, while not a single one of all the nuclei raised has failed. This is all the more remarkable, as in other years nuclei were, as a rule, the last to become fertile. But what adds more to the singularity other hives besides my own are on a similar footing, many hives throughout the country being either queenless or have drone breeders. I have given away all my surplus queens, and have still inquiries for more.

#### SWARMING

took place this year before the hives were nearly crowded, fully disproving the argument that timely room will prevent it. Then the prime swarms superseding their year-old queens with young ones further demonstrates that extra room will not prevent swarming.

This abnormal state of matters at swarming time no doubt arose from the queens seeking a rest from over-exhaustion by continuous laying from January up till 8th June, that most fatal day of any throughout the year to bees. It was allowed by many experienced bee-keepers, that with a few days more of such weather few bees if any could have survived. The safety of bees during winter never gave me any anxiety, spring being the most anxious time; but now it appears that it is the summer months we have most to dread.

#### PUNIC BEES.

I am flooded with inquiries about these interesting bees. Some of the persons appear to have a similar impression as "A. Hallamshire Bee-keeper," that "I have given them an indifferent report." I gave a most faithful report, although I stated that I could not confidently recommend them as honey gatherers. How could I? The bees had no chance. There was not a single day the honey was plentiful since I had them, and although the Punics were 2 lbs. light, if the reader re-reads the article attentively, and considers the comb-making the Punics had to do, and their fewness in number compared to the others, he will be compelled to conclude the Punics had been the most industrious. I am satisfied the Punics are superior in many respects to other varieties, but I cannot say they will gather more honey until I have ocular demonstration in a good season under a fair trial. Since I brought them home they have been and still are working more vigorously than any other variety, while nuclei having Punic queens have far more young bees; and, what is as satisfactory, every queen I presented has excelled in honey gathering while their combs are beautifully white, thus these bees have done enough to earn for themselves the reputation of the best honey gatherers; but another season must come and go before the pure Punics' honey gathering qualities will be known by me.

I trust the foregoing explanation will satisfy all concerned for the nonce, and that after a little time with patience, until summer weather comes, they may rely upon me—if spared—to give an accurate account of their and of others' doings. Meanwhile, do not lose a good chance of punicising your apiaries.

When drawing out the ventilating floor at the moors I discovered what I took to be quite a heap of sealings of drone cells. Thinking the Punics had been working on similar lines as other varieties do, building drone cells after the bees were increasing

from their first cluster, after they were home I examined them, but found no drone comb as expected, all worker. The question now is, Do the young Punics when leaving the cell set themselves free in the same manner as drones do, and are the seals of workers different in any way from the seals of other varieties? Will "A. H. B. K." say if he has observed, although the Punic is a smallish looking bee, its worker cells measure  $9\frac{1}{2}$  to the 2 inches? Those I have measured are of this size.

#### PREPARING FOR WINTERING.

As bees winter better on sugar than Heather honey, but breed better on the latter, I have fed all stocks with several pounds of sugar; this insures safer wintering, while it preserves the honey for breeding during the earlier part of the year, and raising the temperature of the hive enables the bees to gather the scattered honey and store it above the cluster of bees, the proper place for honey at all times.

Although bees are better to be left alone after September, it is not too late in the season to administer a few pounds of sugar to each hive, so as to reduce abdominal distension to the lowest degree, should the winter be severe.

#### FLOOR BOARDS.

Care should be taken that floor boards do not retain moisture, nor project in any way to draw it to the interior of the hive, the ventilating floor and the insensible upward ventilation obviate all this.—A LANARKSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

William Rumsey, Waltham Cross.—*Catalogue of Roses.*  
J. Cheal & Sons, Crawley.—*Catalogue of Trees and Shrubs.*  
G. Phippen, Oxford Road, Reading.—*Bulb Catalogue.*  
Dammann & Co., Naples.—*General Catalogue of Plants and Seeds.*  
Wm. Paul & Son, Waltham Cross.—*Catalogue of Roses.*  
Pitcher & Manda, New Jersey and Hextable.—*Bulb, Orchid, and Plant Catalogues.*  
E. P. Dixon & Sons, Hull.—*Catalogue of Roses, Fruit Trees, and Ornamental Trees and Shrubs.*  
Jno. Jefferies & Son, Cirencester.—*Catalogue of Roses and Trees.*  
E. H. Krelage & Son, Haarlem.—*Catalogue of Darwin Tulips.*  
Ketten Frères, Luxembourg.—*Catalogue of Roses.*



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Books (L. B. G.).**—The following books will probably meet your requirements, and you can obtain particulars as to prices from the respective publishers. "The Rose Garden," from Messrs. Wm. Paul and Son, Waltham Cross; "Stove and Greenhouse Plants," Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, or "Greenhouse and Stove Plants" by Mr. T. Baines, from J. Murray, Albemarle Street; "British Ferns," by Mr. Druery, from Upcott Gill, Strand; and "The Handbook of Hardy Trees and Shrubs," translated by Mr. Helmsley, from Longmans, Green & Co., 39, Paternoster Row.

**Tomatoes (A. C.).**—We are glad to see the fruits, for that was the only purpose to which they could be put, for all were over-ripe, some crushed and broken. Of the Reds Dickson's Carentan is distinctly the



best you have sent. Ruby was crushed. Yellow King and Sutton's Golden Nugget are extremely attractive, and we know them to be good in quality. We prefer Conference to Challenger, and like Ham Green Favourite better than either. We know you had finer fruits some time ago or they would not have won prizes in strong competition.

**Vine Laterals** (*Subscriber*).—We presume your house is not heated, or the Grapes would not be so late and the laterals so unripe. You may remove all growths from above the bunches except one leaf on the main lateral, also the whole of the growths below the bunches except the main leaves. This will admit all the sun there may be to the foliage retained, and facilitate the maturation of the wood. If the sub-laterals are numerous it will be prudent to half shorten them at once, and two or three days afterwards remove the remainder. Early Gladioli of the ramosus section may be planted now, corms of the gandavensis varieties in spring.

**Peat Moss Litter as Manure** (*J. E.*).—After passing through stables this will be excellent for incorporating with your heavy clay, because of the humus it will impart, as well as the manurial elements it will contain. We should much prefer it to "heavy cow manure" for strong land, but should not apply it in a very wet state. It is one of the best mediums for mulching fruit trees, Vine borders, and anything else. Dried and pulverised it will be serviceable for mixing with heavy loam for potting. When suitably dried it is good for use in Mushroom beds, and has produced excellent crops, as you will find on consulting Wright's "Mushrooms for the Million."

**Name of Caterpillar** (*S. H. H.*).—It is the species known popularly as the peppered moth (*Amphydasis betularia*). The caterpillars feed in gardens or near them on the Birch, Lime, Robinia, and other trees or shrubs, and occasionally the moth deposits an egg on the Rose. Most years they have entered the pupal state by the middle of September, but this is a late season. It is not an abundant insect, but is found in many places. We would have returned it, as you requested, had not the caterpillar in its journey sustained injury which caused its death. The moth emerges from its chrysalis in May usually; there is only a single brood yearly. The paper box was flattened in the post.

**Nectarines Quartering** (*J. C. C.*).—The usual cause of Nectarines quartering is a deficiency of atmospheric moisture in the early stages of swelling up to and including stoning. The skin thus becomes hardened, and when the fruit swells for ripening the skin does not grow correspondingly with the flesh, and splitting ensues, generally at the apex, and as swelling proceeds the crack enlarges, sometimes so deeply as to expose the stone. The only remedy is more moisture both at the roots and in the atmosphere during the early stages of swelling and past the stoning process, and less moisture as the fruits approach maturity. Peaches are less prone to "quartering" because their skins are downy, and on that account not so liable to induration by an arid atmosphere as is the smooth and more sensitive skin of Nectarines.

**Clematis Dying Suddenly** (*T. L.*).—Sometimes Clematis die off suddenly because their union with the rootstock upon which they are grafted is not complete, when the plant collapses altogether. Occasionally the growths die back to firm wood near the base, and is due to some injury to the stem, sometimes caused by slugs, at others by beetles, or by a fungus which destroys the tissues, the same as or allied to that causing the collapse of *Calceolarias*. Some galvanised wire acts corrosively on plants trained to it, which can hardly be the cause of the plants dying off in your case, as some are not affected by it. If caused by the wire, painting with whitelead paint, or other colour of which lead forms the body, is the cure. Clematises do not long remain healthy in soil destitute of lime.

**Mrs. Pince Grapes** (*L. C.*).—This Grape is upon the whole one of the most difficult to set its fruit and finish satisfactorily. The Vine does not show fruit freely when very closely pruned, and it does not set well on growths from indifferently matured wood. Artificial impregnation is often necessary to ensure a good set of berries. The cause of the small berries in your case is defective fertilisation. To grow this Grape well the Vines should be started in February or early March. By drawing a camel's-hair brush or bunch of feathers over the bunches when flowering and using pollen from Black Hamburgs or other free setting Grapes the berries will set, and by not overcropping and allowing somewhat free growth in the laterals the Grapes swell well, forming handsome bunches, and perfecting fruit of superior quality. The white Grape is Trebbiano.

**Moss and Weeds on Lawn** (*J. E.*).—A mixture of two parts wood ashes and one part soot applied at the rate of a peck per rod (30½ square yards), or 40 bushels per acre, has an excellent effect on lawns. The dressing should be applied evenly in February or as soon after as the weather is favourable early in the year. To destroy moss on badly infested lawns apply half a bushel of wood ashes per rod in autumn, and in spring dress with soot during moist weather at the rate of a peck per rod, which will encourage the grass. The above may be had in most places for the trouble of saving. Bonemeal is excellent as a top-dressing for lawns, and should be applied in autumn or early spring at the rate of 10 to 15 cwt. per acre, and is better adapted for light than heavy clay soil. Dissolved bones—i.e., superphosphate, may be applied at the rate of 5 cwt. per acre in autumn or early spring, but this is less durable in its effects than bonemeal. Both are very useful dressings,

encourage grasses, and proving prejudicial to weeds. Sulphate of iron, 1 cwt. per acre, distributed evenly when the ground is moist, destroys moss and benefits grass.

**Tomato Leaves Shrivelling** (*S. S.*).—The cause of Tomato leaves "drying up like tinder" may be sun acting powerfully on them after a period of dull weather resulting in scorching, when they will become whitish yellow at first, turning to brown; or insects, such as red spider and white fly, abstracting their juices, causing the leaves to die yellow or brown, and to slowly collapse; or fungus destroying their tissues, when the young foliage turns black under powerful sun after a dull period; but the older leaves develop brownish patches covered with a greyish powdery substance, with a depressed spot in the centre of a brownish colour, and the dead leaf when squeezed in the hand falls into "tinder." The plants do not bear syringing with weak softsoap water nearly so well as do Roses, for Tomatoes have hairy leaves, and the softsoap adheres to their surfaces and clogs them. If the plants are affected with the fungus *Phytophthora infestans*, they may be sprayed with a 2½ per cent. solution of sulphate of copper and lime—that is, Bordeaux mixture, or dusted with anti-blight powder. To have Tomatoes ripe early in April next year the plants should be raised from seed, or preferably cuttings now, and kept near the glass until January, when they should be transferred to the fruiting pots or beds.

**Skeletonising Leaves** (*J. S.*).—Nearly all leaves may be skeletonised, but some require a longer time than others to become macerated. For instance, the seed vessels of the Winter Cherry, Henbane, and Poppy require a fortnight or three weeks if the weather be hot. Leaves of *Ficus elastica* (Indiarubber Plant) and *Magnolia grandiflora* require several months; leaves of the Tulip Tree, Poplar, and Maple a fortnight; leaves of the Holly and Ivy two or three weeks. Ferns require a long time, and so do the leaves of Beggars' Broom, Butchers' Broom, the Orange, Lemon, and Camellia. Great care must be taken in choosing the leaves, as the smallest speck spoils one. Many more should be placed in the water than are needed, as not more than one in twenty will be perfect. The time required depends on the weather. Beginners examine them too soon. The leaves should be put into soft water in a sunny situation, taking care that they are covered with water. Evergreen leaves may be skeletonised at any time, but deciduous leaves not before the end of June or beginning of July. Seed vessels must be operated upon when nearly ripe. When quite ready for skeletonising put the leaves into boiling water to remove the offensive smell. Remove the scum from the water. Brush off the pulp with a rather hard brush. If the leaves are tender bump them gently, which removes the pulp without disturbing the nerves of the leaves. Pour clean water over them until quite clean; put them on blotting paper to dry—a piece of glass is useful to brush them on. Tender leaves should be floated in water and caught on a card, as are fine Seaweeds. Bleach with chloride of lime, and then wash them thoroughly with clean water, otherwise they become yellow. It is better not to bleach them until required for setting up. Thistles and Teazels look well when bleached, and aid much in arranging a group.

**Names of Fruits.**—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*Thomas Bradshaw*).—The Peach is probably Royal George, but we cannot say decidedly without leaves, and knowing whether the flowers are large or small. Damson, Shropshire Prune. Apples.—1, Mère de Ménage; 2, Not known. (*Amateur*).—1, Tower of Glamis; 2, Winter Hawthornden; 3, Bess Pool; 4, Not recognisable; 5, Dumelow's Seedling, a splendid specimen; 6, Mère de Ménage. (*H. H. D.*).—Louise Bonne of Jersey. (*Nemo*).—1, Emperor Alexander; 2, Herefordshire Costard; 5, Emperor Alexander. The labels were off the other specimens. The Clematis is a variety of lanuginosa. (*W. R. R.*).—1, Reinette de Canada; 2, Cox's Pomona; 3 and 4, Blenheim Pippin; 6, American Mother. (*Anthony Oliver*).—2, Cockpit; 3, Beauty of Kent. (*W. D. & Son*).—25, Ribston Pippin; 22, Golden Knap; 16, Comte de Lamy; 13, Duchess of Oldenburg; 18, Easter Beurré; 20, Claygate Pearmain. We only name six fruits—see note above. (*Walter Jinks*).—1, Golden Winter Pearmain; 2, Beurré Clairgeau; 3, Kerry Pippin; 4, Cox's Orange Pippin; 5, Herefordshire Pearmain; 6, Louise Bonne of Jersey. (*W. S.*).—4, Winter Hawthornden; 5, Hall Door. The others are probably local. (*J. W.*).—1, Tyler's Kernel; 2, Dumelow's Seedling. (*S. S.*).—Fondante d'Automne. (*Farnborough*).—1, Knight's Monarch; 2, Worcester Pearmain; 5, Beurré Superfin; 6, Norfolk Bessing. (*A. M. M.*).—1, Doyenné Boussoch; 2, Van Mons Leon Le Clerc. (*R. W.*).—1, Peasegood's Nonesuch; 2, Reinette de Canada; 3, Golden Winter Pearmain; 5, Duchess of Oldenburg; 6, Cellini. Some correspondents have withheld their names and addresses, and one has not even given a signature. Fruits cannot be named when our simple conditions are not complied with. Several fruits cannot be named because the numbers were pinned into the eyes, destroying the segments, one of the guides to identification.



**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Cotswold*).—1, *Abies americana*; 2, *Quercus Cerris*; 3, *Pinus Strobus*; 4, *Pinus Cembra*; 5, *Pinus excelsa*; 6, *Cupressus Lawsoniana*. (*R. C., Edinburgh*).—2, *Retinospora plumosa*; 4, *Juniperus chinensis*; 6, *Cupressus Lawsoniana*. The others we are uncertain about. You might compare them at the Edinburgh Botanic Garden. The curator will also readily inform you of their method of drying Conifers. (*L. C.*).—1, Doubtful without flowers; 2, Not yet identified; 3, *Rivina levis*; 4, *Doodia aspera*; 5, Shrivelled; 6, *Bambusa Fortunei*.

### COVENT GARDEN MARKET.—OCTOBER 14TH.

HEAVIER supplies of Cobs. Trade brisk.

#### FRUIT.

	s.	d.	[s. d.]		s.	d.	s. d.
Apples, $\frac{1}{2}$ -sieve ..	1	0	3 9	Oranges, per 100 ..	4	0	9 0
Cobs, Kent, per 100 lbs. ..	35	0	0 0	Peaches, per doz. ....	1	0	6 0
Grapes, per lb. ....	0	6	1 9	Pears, $\frac{1}{2}$ -sieve ..	0	0	0 0
Lemons, case ..	15	0	20 0	St. Michael Pines, each..	3	0	8 0

#### VEGETABLES.

	s.	d.	s. d.		s.	d.	s. d.
Asparagus, per bundle ..	0	0	0 0	Mushrooms, punnet ..	0	8	0 10
Beans, Kidney, per bush.	1	0	2 0	Mustard & Cress, punnet	0	2	0 0
Beet, Red, dozen ..	1	0	0 0	Onions, bunch ..	0	3	0 5
Carrots, bunch ..	0	4	0 0	Parsley, dozen bunches	2	0	3 0
Cauliflowers, dozen ..	2	0	3 0	Parsnips, dozen ..	1	0	0 0
Celery, bundle ..	1	0	1 8	Potatoes, per cwt. ....	3	0	4 0
Coleworts, doz. bunches	2	0	4 0	Salsafy, bundle ..	1	0	1 6
Cucumbers, doz. ..	1	0	2 6	Scorzonera, bundle ..	1	6	0 0
Endive, dozen ..	1	3	1 6	Shallots, per lb. ....	0	3	0 0
Herbs, bunch ..	0	3	0 0	Spinach, bushel ..	2	0	0 0
Leeks, bunch ..	0	2	0 0	Tomatoes, per lb. ....	0	2	0 4
Lettuce, score ..	0	9	1 0	Turnips, bunch ..	0	0	0 4

### AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms not plentiful in variety.

	s.	d.	s. d.		s.	d.	s. d.
Arum Lilies, 12 blooms ..	3	0	6 0	Maidenhair Fern, dozen	4	0	9 0
Asters, doz. bunches ..	4	0	6 0	bunches ..	4	0	9 0
" (French) doz. behs.	9	0	15 0	Marigolds doz. bunches ..	1	0	2 0
Bouvardias, bunch ..	0	6	1 0	Mignonette, 12 bunches..	1	6	3 0
Carnations, 12 blooms ..	1	0	2 0	Myosotis, dozen bunches	2	0	4 0
Carnations, doz. bunches	4	0	6 0	Pelargoniums, 12 bunches	4	0	9 0
Chrysanthemums, dozen	4	0	9 0	" scarlet, 12 bunches	4	0	6 0
bunches ..	4	0	9 0	Primula (double) 12 sprays	0	6	1 0
Chrysanthemums, dozen	0	9	3 0	Pyrethrum, doz. bunches	2	0	4 0
blossoms ..	0	9	3 0	Roses (indoor), dozen ..	0	6	1 6
Dahlias, doz. bunches ..	2	0	4 0	" (mixed), doz. bunches.	2	0	6 0
Eucharis, dozen ..	2	0	4 0	" Red (English) per	0	9	1 0
Gardenias, per doz. ....	1	6	4 0	dozen blooms ..	0	9	1 0
Gladiolus, dozen bunches	4	0	8 0	" Tea, white, dozen..	1	0	2 0
" per 100 spikes	8	0	10 0	" Yellow, dozen ..	2	0	4 0
Lapageria, 12 flowers ..	1	0	3 0	Sweet Peas, doz. bunches	2	0	3 0
Lilium longiflorum, 12	3	0	5 0	Tuberose, 12 blooms ..	0	3	0 6
blossoms ..	3	0	5 0	White Lilac (French) per	5	0	7 0
Lilium (var.) doz. blooms	1	0	3 0	bunch ..	5	0	7 0
Marguerites, 12 bunches	2	0	4 0				

#### PLANTS IN POTS.

	s.	d.	s. d.		s.	d.	s. d.
Aralia Sieboldi, dozen ..	6	0	12 0	Ferns, in variety, dozen..	4	0	18 0
Arbor Vita (golden) doz.	6	0	12 0	Ficus elastica, each. ....	1	6	7 0
Asters, dozen pots ..	3	0	6 0	Foliage plants, var., each	2	0	10 0
Begonias (various), doz.	4	0	9 0	Fuchsia, per doz. ....	4	0	6 0
Cacti Plants, per dozen ..	6	0	12 0	Heliotrope, per doz. ....	4	0	6 0
Chrysanthemums, per doz.	4	0	9 0	Lilium, various, doz. ....	18	0	80 0
" large, doz. ....	12	0	24 0	Marguerite Daisy, dozen	6	0	12 0
Coleus (various), per doz.	3	0	6 0	Mignonette, per dozen ..	3	0	6 0
Dracena terminalis, doz.	24	0	42 0	Myrtles, dozen ..	6	0	12 0
" viridis, dozen ..	12	0	24 0	Palms, in var., each. ....	2	6	21 0
Erica gracilis, per doz. ..	9	0	12 0	Pelargoniums, per doz. ....	6	0	9 0
Euonymus, var., dozen ..	6	0	18 0	Pelargoniums, scarlet, doz	2	6	4 0
Evergreens, in var., dozen	6	0	24 0	Solanum, per dozen ..	9	0	12 0



### LIMING LAND.

THE wet summer has been most unfavourable to the work of dressing land with lime by the old plan of bare fallow and lime, nor do we favour the plan, no matter what the season may be, whether wet or dry. The only thing to be said in its favour is

that between haysel and harvest the horses may sometimes be spared to cart lime, and that is why it is done then.

Well, now we have especially in mind heavy land, that heavy, dense, clayey soil, whose adhesion we are so anxious to break up and render friable. For we forget not that the quality of soil depends chiefly upon its mechanical state, and we are bound to do our utmost to break up the tenacious, inert mass, into which we must have air and warmth enter and circulate freely if would have crops full and bountiful as we ought to do.

Clay fires have been kept going all the summer long, notwithstanding the rain, and a grand store of ballast have we now being carted on the land, which was limed last year, and which, therefore, has had a start—a good one indeed; for was it not drained in the previous winter, and has not our work of reclamation been as progressive as gradual?

Mechanical division? Yes! that is what we want, and we sometimes wonder if our Scotch friends have enough of it with their mighty dressings of cowdung. There is no doubt that such rough manure as they plough in so deeply does open up the land for awhile. But we aim at something more permanent in character, while avoiding anything like a heavy outlay.

Lime is not expensive if you are within carting distance of a kiln, and sixty or seventy bushels an acre is a tolerably fair dressing, which we do not often exceed except for blue lias clay, and then the temptation to apply an extra quantity is perfectly irresistible, for we know how greatly it is needed, and what great good it will do.

Having cleaned the land, the lime is placed in small heaps containing two or three bushels, to be slaked by atmospheric moisture, which is generally plentiful enough at this season of the year. It is then spread and ploughed in, or worked in with a cultivator, the aim being to mingle it with the soil as thoroughly as possible. Its effect upon the soil is varied and important. It unites with felspar or clay, setting free potash or other alkalies. It acts on vegetable matter, setting free ammonia, water, nitric acid, and carbonic dioxide, tending to destroy excess of humus. It neutralises organic acids, and so "sweetens" soils. It takes up the nitric acid, is a plant food in itself, aids in the formation of silicates, and opens up clay soil from the curdling effect it has upon its particles. It also renders harmless injurious salts of copper, iron, &c.

Not often is it that farm land has a superabundance even of humus in it. When it has lime is highly beneficial, but it should not be applied long before a crop is sown, but rather as the soil is in course of preparation for a crop.

For clay land there can be no better time than the present, only the work must be prompt, as it is all-important to work in the lime immediately after it is slaked, and there can be no certainty about this when autumn becomes far advanced and the weather broken. The carting, spreading, and ploughing are therefore made to follow each other closely, our aim being rather to get the lime into the soil than to wait till it is all slaked, and a turn or two of the cultivator or drag harrow, when a favourable opportunity offers, serves to mix the lime well with the soil.

Opinions differ as to how often lime may be applied with advantage, but we are strongly of opinion that frequent moderate dressings are desirable in all heavy clay land for all the reasons we have given. We have long been accustomed to make compost heaps by mixing road sidings, coal ashes from the nearest town (always load back when you send in corn or other produce), and some rough farmyard manure. This is turned once, bringing up the thick bottom layer of road sidings to the top. It is turned again before it is carted on to the land, and previous to this the top is covered with lime fresh from the kiln. As the heap is turned



due care is taken to work all the lime into the interior of the heap ; it is then carted and ploughed-in at once, and is good for any land.

#### WORK ON THE HOME FARM.

The flock now requires special attention to get the different sections of it well in hand for the coming winter. If our hint given a month ago about the autumn dipping of sheep had attention, the whole of the sheep have now clean wool, quite free from tick or seab, or parasites of any sort. They are thus free from irritation and the incessant itching which besets an undipped flock, and which tells so seriously upon condition. But there is another evil demanding our best attention, and that is foot rot, if we are so unfortunate as to have it among our sheep. We have repeatedly pointed out that there is no complete cure for this infectious disease. It can be subdued so thoroughly that there may not be a lame sheep in a flock, but once there and it may break out at any time. There need be no great number of bad cases in any flock if the feet are examined at least once a week, or more frequently if necessary. Let the patients have most careful and gentle treatment. If possible place all sheep with sore feet together, apart from the remainder of the flock ; then examine them daily, sponge off any discharge or filth from the affected part (usually between the claws), pare off any loose part of the hoofs, and carefully dress with Gell's foot-rot ointment. Bad cases may require the affected foot to be placed in a bag secured to the leg with tapes.

The most difficult cases are those having swollen feet without any exterior wound or discharge of pus. These we invariably treat by inserting the foot in a bag containing a linseed meal poultice, bathing daily till a discharge of pus is induced, when the swelling is soon reduced and the foot healed.

There is much brutality on the part of shepherds hacking away at broken hoofs with a large, clumsy, blunt knife, causing much bleeding, and needless suffering to the sheep. Let masters see to this, for it is rare indeed that bleeding need be caused. To understand this every flock master should take some of the sheep in hand himself, treating and watching cases till they are cured. Many shepherds are difficult to manage, and are not willing to receive orders about the treatment or care of their charge.

Nothing can be more deplorable than the sight of a neglected flock folded on Turnips now. They go limping about in the mud, rubbing their itching bodies against every hurdle they come to, and are never at rest or free from pain. Such a state of things is a shame and disgrace to all concerned in the ownership or care of the sheep, and the pity of it is that it might all be so easily avoided.

#### REPORT OF THE CLOVER AND GRASS SEED HARVEST OF 1891.

In reviewing the situation, kindly note that we simply express our opinions, doing so in good faith, but we cannot be responsible for the outcome, as it is impossible for anyone to predict the future. There are so many contingencies to be taken into consideration, which are beyond human control, that we can simply give what at the moment appears to us to be as nearly correct an estimate as it is possible to supply.

**Red Clover** (*Trifolium pratense perenne*).—The reports from the Continent of Europe are generally disappointing, large areas were ploughed up after the severe winter, and heavy rains have since destroyed or damaged those crops that survived the winter. American advices speak of considerable damage in many districts by grasshoppers and weevil.

There is a fair acreage of English seed being grown, the condition of which must be entirely governed by the state of the weather at the time the seed is harvested. Irrespective of origin many samples of Red Clover that we have seen bear evidence of being weather stained. American samples are again small and wanting in colour. Values at present show considerable advance upon those at the end of last season.

**White Clover** (*Trifolium repens*).—The European crop of this article outside Great Britain is reported to be a fair one in quantity, but the quality will be below the average of previous years, the seed being more or less damaged by the excessive rains. American advices indicate a fair crop, but as this seed is always very much smaller in the grain than European seed it is not so much sought after. Present values about the same as at end of last season's sales.

**Alsike Clover** (*Trifolium hybridum*).—European reports of this crop are generally very unsatisfactory. The quantity produced is supposed to be smaller than it has been for many years, and where the rains have been constant and heavy the samples will be seriously prejudiced.

American advices speak of a fair average crop of good quality but seed from this district will contain a larger quantity than usual of White Clover.

Present prices are firm, but values may become a little easier than at the end of the selling season last year.

**Trefoil** (*Medicago lupulina*).—Trefoil is a considerable crop both in England and on the Continent, but as much of the seed was not harvested until after the rainy season set in, the quality will be below the average of the past few years, and prices may be expected to continue firm for bright samples.

**Lucerne** (*Medicago sativa*) is a fair average crop.

**Timothy** (*Phleum pratense*).—Again the quality of the new deliveries of this seed is very satisfactory. This fact, combined with the extensive area under cultivation, and the considerable surplus held over in the producing districts last year, will probably have the effect of making the market easy during the present season.

**Rape**.—Reports from the producing districts, both in England and on the Continent, state that almost the entire crop was destroyed by winter frosts. Good conditioned seed comes high in price at the present time, and may be expected to reach even a higher range shortly.

**White Mustard**.—Fair average crop so far as present advices indicate.

**Swedes, Yellow and White Turnips**.—Crops of these seeds were got in under fairly favourable circumstances, but in addition to damage by the severe winter, the plants during the flowering period were in many districts attacked by a black flea, which rapidly destroys that portion of the plant, with the result that the outcome in bushels per acre is very seriously reduced.

Scotch yellows are represented by very limited quantities, and at the present time make higher values than they have done for several years.

#### GRASS SEEDS.

**Rye Grasses** (*Lolium perenne* and *italicum*).—Early advances indicated fair average crops, but the rains that were experienced at a later period have had the effect of damaging the seed, and prices have been gradually and firmly advancing ever since. It is also believed there is a smaller average than usual. This fact, combined with the somewhat unusual and important demand for shipment, tends to make holders very firm in their ideas of price, and it is not expected that any important change will be found in these articles during the year, in the shape of lower values.

**Agrostis stolonifera** (Fiorin).—The home crop of this article is again a fair average one, and the market reports speak of satisfactory crops ; it should be borne in mind that American samples of *Agrostis* generally abound in ergot.

**Alopecurus pratensis** (Meadow Foxtail) is again a fair average harvest, both in quantity and quality. Values may be expected to be reasonable.

**Cynosurus cristatus** (Crested Dogtail) is a very short crop, both in Great Britain and on the Continent, and it is probable before the season is over this seed will be practically unobtainable in quantities.

**Festuca duriuscula** (Hard Fescue) is a fairly plentiful crop, and seed has been harvested in average condition.

**Festuca pratensis** (Meadow Fescue).—The report of this crop from the producing districts speak of a good average output, and reasonable prices may be expected.

**Poa pratensis** (Smooth Stalked Meadow Grass).—The crop of this article is again very short, and as no surplus seed could possibly be carried over from last year, prices will rule high.

**Poas nemoralis and trivialis** (Wood Meadow and Rough Stalked Meadow Grasses).—Smaller acreages than usual of these Grasses appear to have been under cultivation, and with only a moderate harvest prices are likely to be very firm.—JAMES CARTER & Co., 237, 238, 246, High Holborn, London, and Mark Lane, E.C.

#### OUR LETTER BOX.

**Guernsey Cows** (*W. R. R.*).—If you go to a dealer you will, of course, have to give £20 and upwards. Watch for announcements of auction sales, and then you may obtain useful animals at the price we mentioned. There are usually plenty of such sales at this season of the year.

#### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

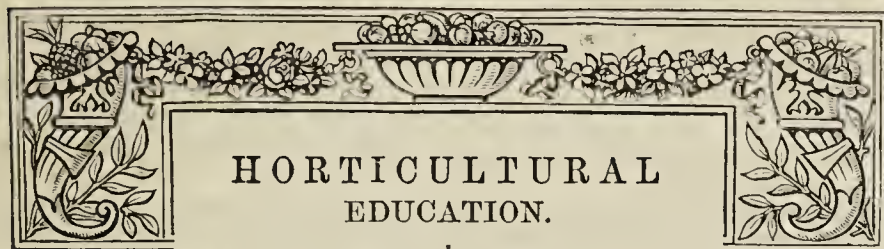
Lat. 51° 32' 40" N. ; Long. 0° 8' 0" W. ; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain
1891. October.		Barometer at 329 and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Temperature.		Radiation Temperature.		
			Dry.	Wet.			Max.	Min.	In sun.	On grass	
		Inches.	deg.	deg.		deg.	deg.	deg.	deg.	In.	
Sunday .....	4	30.278	43.6	47.8	Calm	52.8	62.6	38.8	89.2	33.0	—
Monday.....	5	29.935	47.9	47.9	E.	51.9	61.2	41.0	73.6	34.4	0.018
Tuesday.....	6	29.435	57.1	55.0	S.S.E.	52.1	62.0	43.2	67.6	44.3	0.501
Wednesday..	7	29.600	55.1	51.2	S.W.	52.9	61.1	50.2	99.9	47.6	0.640
Thursday....	8	29.840	50.7	49.3	S.W.	52.6	61.2	45.0	97.0	38.4	0.010
Friday .....	9	29.675	60.8	59.1	S.W.	52.9	65.9	51.4	100.8	47.9	—
Saturday ....	10	29.814	55.4	54.7	E.	53.7	60.3	50.0	62.6	43.3	0.238
		29.801	53.7	52.1		52.7	61.9	46.4	84.4	41.3	1.437

#### REMARKS.

4th.—Misty early ; bright day.  
5th.—Misty early ; a little sun in morning, but generally dull and cold.  
6th.—Dull drizzly morning ; wet from 1 P.M., and steady heavy rain from 3 P.M. to 11 P.M.  
7th.—Alternate bright sunshine and cloud ; heavy rain at 11.45 A.M., and with thunder and hail at 0.50 P.M. ; bright afternoon, and heavy rain again from 11.9 P.M. to 2.0 A.M. on 8th.  
8th.—Bright almost throughout.  
9th.—Dull and damp early, generally overcast in morning ; bright afternoon.  
10th.—Overcast and misty till 10 A.M., then dull and showery.  
A damp week, of nearly average temperature.—G. J. SYMONS.





CONSIDERABLE attention is now being devoted in rural districts to the extension of education in useful gardening amongst cottagers, allotment holders, and those in the occupation of small plots of land. The matter is being taken up very earnestly by several County Councils, and there is every prospect, under well-devised systems, of much good being performed. In one county Mr. J. Wright has prepared an admirable course of lectures, covering the whole subject in an efficient manner. I have been invited to undertake a similar task for a neighbouring county, and several Fellows of the Royal Horticultural Society, and other organisations, are already engaged in duties of this character. Before the termination of the present County Councils' period of office, horticultural and agricultural instruction will be in full progress under the conditions of the Technical Education Act in numerous districts, and the new Councils will have the opportunity of benefiting by the experience of their predecessors. At present it seems, to a large extent, to be merely experimental. There is no generally recognised authoritative scheme of working, and the result will be that many different methods will be adopted, and anything like a uniform test of the instruction imparted will be impossible. In some cases it is expected that the instructor will cover the whole range of the subjects in an elementary form in four lectures, to be delivered in different districts in succession, each course to be complete in itself. Another plan provides a course of twelve lectures, and others are arranged upon a two or three-years system of six lectures each, gradually advancing in importance, but each affording a complete stage to be tested at the end of the respective seasons. The character of the instruction imparted should, of course, be chiefly regulated by the requirements of the various districts; it will then not only excite more interest, but will be of more real service than otherwise. In one place fruit culture would be the prominent feature, in another vegetables would occupy the leading position. Allotments might, in some instances, be the prominent considerations; in others, cottage gardens or small farms. In all, it would, however, have to be borne in mind that the lectures or lessons are not intended for gardeners, or to add to their ranks, but to enable the bulk of the people in rural districts to improve the culture of such small plots of land as might be within their reach; to add to their home supplies; possibly, in suitable localities for marketing, to aid in extending slender means; and, above all, to give the rural population greater inducements to remain in the country, and to check the continual flocking into towns. The objects are so worthy that they deserve every effort on the part of all concerned in the welfare of the people to accomplish them, or at least to give the matter so thorough a trial that its success or otherwise can be fully demonstrated.

Apart from the County Council system of horticultural education, another of a more elementary kind is likely to be adopted in country schools. At the special request of one of the leading authorities in educational matters the British Fruit Growers' Association was invited to prepare a scheme of progressive education in horticulture adaptable to schools that could be submitted to the Education Department for incorporation in a new code. A sub-committee was appointed to prepare a draft, which was submitted to a special Committee under the

chairmanship of Sir James Whitehead, Bart., and including amongst those present Dr. M. T. Masters, F.R.S.; Dr. J. Stanislaus Makovski, A. H. Smee, Esq., of the Surrey County Council, and several practical horticulturists. The matter was discussed at considerable length, and it was ultimately resolved that the scheme to be recommended should assume the form of a three-years course, the first stage to be devoted to an elucidation of the principles of plant life, not on a botanical basis, but in strict application to cultural requirements. The second stage would deal with the elementary operations of gardening, to include the description and use of the implements required. The third stage would be simply an extension of the second, giving fuller details of the respective operations, and referring briefly to fruit, vegetable, and flower culture, insects and fungi, and other general matters. It is especially intended that the principles and operations dealt with should be practically demonstrated at every step, and in some cases it is thought that for a suitable fee qualified gardeners in the various districts would occasionally undertake this task. Where convenient or desirable the pupils in the third stage could perform the simpler work under the direction of the teacher, who in the two earlier stages had acted merely as a demonstrator.

To give a better idea of the scheme, the synopsis adopted is subjoined, and could be divided into any convenient number of lectures, though forty were suggested as a suitable number for each stage.

#### First stage.

##### PLANT LIFE.

##### SEEDS, NATURE OF, AND GERMINATION.

Requirements of growth, water, heat, air.

##### SOILS.

Nature and composition.

##### ROOTS.

Nature and functions.

Branches, fibrils, and root hairs.

What they do, and how; what helps, what hinders them.

##### STEMS AND BRANCHES.

Their nature.

Work and uses.

Helps and hindrances.

##### LEAVES.

What they are, what they do.

Helps and hindrances.

##### BUDS AND TUBERS.

Leaf buds, flower buds, tubers.

##### GROWTH.

Increase in size and changes of composition.

Formation and storage of food materials.

##### FLOWERS.

Their component parts.

What they do.

##### FRUIT.

Changes and development during ripening.

Forms and varieties, as Apple, Strawberry, Plum, &c.

#### Second Stage.

##### ELEMENTARY OPERATIONS.

*Description and use of implements under each head.*

##### OPERATIONS CONNECTED WITH THE LAND.—With explanations and illustrations of good and bad methods.

Digging and trenching.

Draining.

Hoeing, stirring the soil, and weeding.

Watering.

##### PREPARATION OF SEED BED.

Rolling and raking.

Sowing, transplanting, and thinning.

##### POTTING.

##### PLANTING.

Positions and shelter.

Staking.

Earthing and blanching.

##### PROPAGATION.—Elementary principles.

Cuttings.

Budding.

Grafting.

Layering.

##### INSECT AND FUNGUS PESTS.



*Third Stage.*

## ADVANCED PRACTICE.

- BUDDING.
- GRAFTING, AND STOCKS USED.
- LAYERING.
- DIVISION.
- BRANCH PRUNING.
- ROOT PRUNING.
- Old and young trees and bushes.
- FRUIT CULTURE.
- Open air and under glass.
- Small fruits.
- Apples and Pears.
- Stone fruits.
- Gathering and storing.
- Packing and marketing.
- VEGETABLE CULTURE.
- Tubers and roots.
- Green vegetables.
- Fruits and seeds (Peas, Beans, &c.).
- Rotation of crops.
- FLOWER CULTURE.
- Outside and under glass.
- MANURES AND APPLICATION.
- TREATMENT OF INSECT PESTS.
- TREATMENT OF FUNGUS PESTS.
- GENERAL KNOWLEDGE OF FRUITS.

This has been duly submitted to the Education Department, favourably received, and is under consideration. In the meantime, however, it is thought desirable to make it as widely known as possible through the Press in order that schoolmasters, teachers, or others interested in the matter may communicate their opinions as to its suitability. If also it were deemed desirable to commence the scheme in any school application could be made at once with that purpose in view, and when it is finally accepted a grant could be earned in the same way as for other subjects.

As a special subject not included in the ordinary school curriculum one difficulty will be the instruction of the teachers; but here the County Council's scheme would prove useful, and in some cases classes are being specially formed for teachers with this object in view, and the matter is being taken up with considerable enthusiasm—LEWIS CASTLE, *Hon. Sec. British Fruit Growers' Association, Hotham House, Merton, Surrey.*

## POTATO DISEASE EXPERIMENTS.

In consequence of the great continental reputation of the Bordeaux mixture, Bouillie Bordelaise, as an antidote to mildew on Vines, some experiments were made in Belgium, France, and Ireland for testing its effects on Potatoes for preventing or mitigating the disease. The results appear to have been such as to lead the Board of Agriculture in co-operation with the Royal Agricultural Society to have further experiments conducted in various parts of the country this year. In results these trials appear to differ considerably, in some cases the dressings having proved beneficial, in others somewhat the reverse, while in others again they had no appreciable effect either one way or the other.

Amongst other trials for testing the merits of the "broth" were an extensive series in the Potato trial grounds of Messrs. Sutton & Sons, Reading. These proved to be of such a remarkable character that a number of gentlemen interested in the subject were invited to inspect them last Friday. After passing through the establishment, which astonishes by its magnitude and completeness, the visitors, numbering about fifty, found themselves in the handsome lecture hall, where an excellent luncheon awaited them. After the close of the repast Mr. Martin John Sutton gave his friends a hearty greeting, and asked them to join him in drinking the health of the "Queen and Royal Family," pleasantly recounting his association with them. He then explained the object of the gathering. It was in no sense of a business character. It occurred to them when experiments were invited on prescribed lines for combating the Potato disease, that they had in their collection of 278 varieties of Potatoes in 810 rows or plantations, grown under absolutely identical conditions, one of the best possible opportunities for giving the remedy a full and fair trial. With the object of doing this half the rows or plants of the different varieties were dressed with Bouillie and the other left undressed. The recommendations of the Board of Agriculture were strictly followed with the sole object of deriving information.

The results were so remarkable that they felt they should be seen by gentlemen capable of judging for themselves and made widely known. Other experiments would no doubt differ, but there could not be much difference of opinion he thought of the character of their own.

The speaker was evidently most careful not to even faintly indicate how great or how small was the effect of the dressings, and no doubt some strikingly beneficial results were anticipated by the inspection. The founder of the firm, Mr. Martin Hope Sutton, in his interesting reminiscences, was also careful to avoid precise statements in respect to the trials he had inspected. They were very interesting, he said, especially as the Potato was the most important food crop except Wheat, and therefore deserving of the best efforts towards improvement and preservation. By this time the company were looking forward to half rows of fine spotless tubers and corresponding portions representing blackness and decay. Whether or not Dr. Voelcker was aware of the facts of the case did not transpire, but said he had satisfied himself that the only object of Messrs. Sutton had been a search for truth, and that was why he was there; and after thanking the firm for what they had done, and would permit them to see, the company were requested to drive to the grounds. On passing out of the hall tabulated records were handed to each visitor, and before the trials were reached the broad general facts were by many discovered. A surprise was indeed in store, and this is the issue. After all the care and labour that had been devoted in dressing the crops, sorting, weighing, and tabulating with the utmost exactitude the effects of the mixture, the outcome of the whole, the "reward," for endeavour was a distinct loss in Potatoes. Here is the significant summary, and there cannot be a doubt that it is in an absolutely accurate representation.

Experiments	Results.			
	Tons	cwts.	qrs.	lbs.
810 rows, total undressed .. .. .	5	8	2	5
810 rows, total dressed .. .. .	4	17	1	1
Total increase of sound produce in undressed .. .. .	0	11	1	4

As the terms of recommendation of the Board of Agriculture may not be in the recollection of all the readers of this Journal they may be in substance recapitulated. It was advised that 20 poles of Potatoes be dressed with a mixture of 4 lbs. of sulphate of copper and 2 lbs. of lime in 20 gallons of water, three dressings to be given. Then 30 poles were to be dressed with 6 lbs. of sulphate of copper and 3 lbs. of lime in 30 gallons of water, or a gallon to a pole in each case. This was done at Reading on June 27th, July 7th, and July 18th. Another plot of 17½ poles was to be dressed with 3½ lbs. of sulphate of copper and 1¼ lb. of lime in 17½ gallons of water, or just over a gallon to a pole. This was done on June 30th, July 10th, and July 25th. If all the applications were made on the same days it might have been supposed that weather peculiarities then prevailing might have influenced the action of the fungicide and consequently the results. It is well therefore that the dressings were made on six different days instead of three in what is supposed to be within the term of the fungoid attack, though the Potato veteran, Mr. Robert Fenn, is of opinion that the first dressing should be made much sooner, and he can certainly show results as satisfactory as those at Reading are undoubtedly unsatisfactory. Mr. Fenn, however, applied the antidote in powder form, Tait and Buchanan's preparation, though this, like the liquid, has not had equal results everywhere.

Returning to the Reading trials. The crops of tubers of each experiment were lying on the ground as dug, those from the dressed and undressed rows side by side, the sound Potatoes in each case having been accurately weighed. In most instances a glance sufficed to show the disadvantage of the dressings, while only in very few indeed were their advantages visible, in several no marked difference being apparent.

The number of rows dressed (in part) varied, presumably according to the relative extent of the general culture of the several varieties. As an example, we take the first on the list, Eclipse. Number of rows five, weight of half rows dressed 2 qrs. 7 lbs., weight of half rows undressed 2 qrs. 27 lbs.; number of rows showing loss of weight after dressing, all—total decrease 20 lbs. Sutton's Ashleaf, number of rows 27, weight of half rows dressed 2 cwt. 2 qrs. 7 lbs., of half rows undressed 3 cwt. 0 qrs. 23 lbs., number of rows of equal weight 5, number of rows showing increased weight after dressing none, number of rows showing a decrease, 22; total weight of decrease in sound tubers 2 qrs. 16 lbs. These examples fairly indicate the effects on the whole of the early varieties—a decrease of crop in every one of them, though the plants were in full growth when the first dressing was applied. Messrs. Sutton observe, "This unsatisfactory result would seem to indicate that the Bouillie is not of any avail as a fertiliser." It is most unlikely that its claim to that merit can be sustained, and where it prevents or destroys fungoid growths on the plants and



thus enables the leaves to remain active the longer, the crop is increased almost if not wholly because of prolonged leaf action, and is not due to the obviously minute fertilising properties of the mixture. In the case of the early varieties it appears to have arrested growth, and from this check they had not time to recover, and therefore the crop was lessened in bulk and value.

Turning to the later varieties the tables denote that Reading Giant, Sutton's Satisfaction, Windsor Castle, and, generally speaking, varieties of the Regent type, Victoria, Woodstock Kidney, and others, grown to a limited extent for their high quality, benefited the most by the applications, while the strong growing, free cropping sorts, that yield produce for the million, were affected prejudicially, and decidedly the expense and trouble involved in the dressing were not warranted by the results attained in this case. It is certainly a fact that out of thirty-four rows of Magnum Bonum only two showed any gain, three were unaffected, whilst twenty-nine were injured by the dressing, the result of the thirty-four trials showing a total weight of 5 cwt. 2 qrs. 24 lbs. for the dressed rows, and 7 cwt. 1 qr. 25 lbs. for the undressed rows, a difference in favour of the latter of 1 cwt. 3 qrs. 1 lb. Thirty-five rows of Abundance show a total weight of 8 cwt. 1 qr. 4 lbs. for the dressed rows, and 9 cwt. 1 qr. 22 lbs. for the undressed rows, a difference in favour of the latter of 1 cwt. 0 qrs. 18 lbs.

It is clear that those varieties proved strong enough to take care of themselves in these trials, the leaf tissues having sufficient power to resist the germinal tubes of the fungus spores, which must have been present on the leaves. In rich or less porous soils the leaf tissues would be softer, hence more vulnerable, and in such case we may expect to hear that the Bouillie dressing has been of benefit in assisting the plants to obstruct the inroads of the enemy. Be that as it may, it is quite certain that if varieties possessing inherent vigour had not been raised and extensively grown for feeding the multitude in cities and towns the supply must have fallen far short of the demand, and prices have been prohibitive to the bulk of the people. There is also no doubt that intelligent land preparation, manuring, seed selection, and general care in culture have contributed to more abundant and sounder crops. As an instance of the value of soil preparation, it may be recorded that most of the strong ground intended for Potatoes this year at Chiswick was deeply dug and thrown in ridges before winter. With subsequent working in favourable weather in spring the mass was pulverised, and brought into the best mechanical condition; but a portion of the ground could not be dug till spring, and in this the disease was by far the most virulent; but the best soil preparation alone did not prevent the outbreak, which seriously damaged the crops.

Before noting some general results of Mr. Fenn's "fight with the fungus," a simple record of special field experiments at Reading may be given as further illustrative of the work there. Three varieties were selected for experiment, with the following results:—

Name of Variety.	Extent of Ground.	Total weight dressed			Total weight undressed.			Total decrease after dressing.			Total increase after dressing.		
		Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.
Sutton's Ringleader	5 poles dressed and 5 poles undressed ....	3	2	27	5	3	22	2	1	13	—	—	—
White Beauty of Hebron .....	5 poles dressed and 5 poles undressed ....	4	0	0	6	0	11	2	0	11	—	—	—
Chancellor .....	2½ poles dressed and 2½ poles undressed ....	3	3	4	3	3	3	—	—	—	0	0	1

It will be seen that the earliest variety suffered the most, its successor following closely; the later, Chancellor, a very fine sample, showing a gain of a solitary pound, obtained at the expense of three dressings of Bouillie. If an acre of Ringleader had been dressed the decrease would have been upwards of 3 tons 18 cwt. This suggests it is better to keep the growths of early Potatoes green than staining them blue with this celebrated mixture, which all through the experiments arrested the growth of the tubers.

Now we run on to Sulhamstead. Mr. Fenn was at Reading, and the crops of his trial plots lying on the land at home awaiting inspection. There was only just time to reach them and have a quick glance before dark. Here, as at Reading, half of some rows had been powdered, and in every case to advantage, the other half not. In some instances a moment's examination of the crops sufficed to show how far the dressing had been done. One or two rows of some of Mr. Fenn's precious high quality varieties prone to the disease had been dressed throughout, and the results appeared to be altogether satisfactory. The veteran rejoiced greatly. He had been fighting with the disease for forty-five years, but had always been beaten, and now for the first time he felt the proud

victor. Every moment he was expected to throw up his hat and shout "powder for ever," but he displayed his enthusiasm in a more unusual way, as will be noted presently.

The varieties operated on in his garden were alluded to in this Journal a few weeks ago (September 3rd). In the field a considerable plantation was made of Eliza Fenn. Exactly opposite the entrance two or three rows were systematically powdered. These, when inspected towards the end of August, were green and growing, the undressed rows stretching away on each side blackened. The difference was most striking, and the crops of tubers lying on the land last week were equally striking. The gain in the dressed rows appeared to approach 50 per cent. The produce with that of contiguous undressed rows will be weighed, and then we shall know. That in one case the crop was good and the other poor was plain enough. Ringleader, too, appeared to be improved by the powder, the first dressing having been given before earthing. Two rows of Potatoes planted after the early crop was dug in July were kept free from the fungus, and afforded sound, though naturally small tubers. This result, Mr. Fenn said, would have been impossible this year without the powder. Granting the powder has been effective, what of the man? Much is due to his persistent and persevering action. Whenever he saw mildew on anything, Roses outside and Vines in, he ran for the bellows and "swept it away;" and how many times the young septuagenarian has skipped up and down the Potato rows puffing away will perhaps never be known. He cannot tell, and does not think it matters; he has conquered the enemy at last, and that is enough for him.

His activity is wonderful and his enthusiasm boundless. By the aid of the old Guy Fawkes lantern we had to see his vineyard, the roof a mass of clusters of Royal Muscadine Grapes for wine making. Until this year they have been eaten up with mildew, but now not a speck is to be seen, nor on the Tomatoes in the same house. "The powder was said to be dangerous," he remarked, so thought "the best way to prove it was to eat a couple of dressed bunches, and tell Eliza to send for the doctor if anything happened." He thought they did him good. We had to go round the garden and shake down seedling Plums, while he flitted about like a Will o' the Wisp, holding up the light to his memorial trees that were sent to him by friends, many now departed, and he calls the trees by their names—Wildsmith, Woodbridge, Bell, Howe, and so on. What a delight to him is his garden. Next we have to go into the barn and see the wine and cider-making paraphernalia, and the work in progress, then into the creeper-draped commodious and picturesque cottage to try the jellies and everything else. Mrs. Fenn is an adept in getting the best that is to be had out of fruits, and not a pound of any kind is wasted, even the purple Berberries, Mahonia aquifolia, and Brambles being stored in the form of delicious conserves.

But the talk was mainly about Potatoes and powder. "What bellows do you use?" casually asked Mr. Barron, who was one of the trio of visitors. "Here, Alice, fetch the bellows, quick!" and forthwith came the maalbec. Miss Fenn is a young lady of taste, and likes to make the room attractive. The bunches of Grasses, Honesty, and other persistent sprays suspended round the walls in fitting receptacles made by deft fingers, had a pleasing effect. Well, what did the old Fennian do but started driving the powder into these to show us the way to use it! It was of no use calling "Father, Father, and Bob, Bob. What are you doing?" for the powder had to fly, and fly it did, till all joined in the cry, "Hold, enough; we understand it!" "Oh, you do, do you? Very well, if there's mildew there it will be settled; that's the way to do it on everything, only do it soon enough and often enough and you will be the master even of the Potato disease." Perhaps we should if we were Robert Fenns, but there is only one, and that is enough in a room when he is armed with a maalbec charged with an impalpable powder of sulphate of copper and lime.—EXPERIENTIA DOCET.

#### THE USE AND ABUSE OF WATER.

IN your last issue I am glad to see that Mr. Waters has in some way put himself right, and I can assure him that it was neither his training nor his practice that I impeached; it was his preaching. Mr. Waters also says that I ought to have ascertained whether he had any explanation to offer before questioning his doctrine. Well, I waited for a fortnight, hoping that he or someone else would have corrected what he now acknowledges were reporter's errors. Surely it was his duty to put himself right. I am also glad to hear of the goodwill existing between Mr. Waters and his subordinates, but that point I never raised. As regards the watering of fruit borders, it is a well-known fact that in the majority of cases they are too sparingly watered. As a rule gardeners have far too much work to waste time in over-watering.

As regards the old tree of Grosse Mignonne Peach to which I referred I am credibly informed that for the last twenty-five years it has borne fruits of equal size and weight to those mentioned—a crop numbering from fifteen to twenty dozen year by year. Mr. Waters speaks of



gathering Peaches which weighed over 11 ozs., but he does not name the variety, though he exults in the knowledge that they were privileged to grace a royal and civic banquet. He must know that at such feasts the great majority of dishes are intended more to fill the eye than tickle the palate, and I have no doubt that both Mr. Waters and myself would make a more successful "Bite" at a good fair-sized Royal George than we should at a monster Salwey. At any rate, my little "Bite" has given him a chance to express himself in a more orthodox manner, for which he says "he is not sorry;" therefore, if he is grateful I am proud in having made so successful a—YORKSHIRE BITE.



TWO DISTINCT ORCHIDS.

At the Royal Horticultural Society's Exhibition in the Temple Gardens last May a plant was shown amongst the Orchids of *Grammatophyllum Measuresianum*, a new and very distinct species of much promise. It had fair long racemes of flowers fully 4 feet in height, and formed a remarkably effective specimen. The



FIG. 69.—GRAMMATOPHYLLUM MEASURESIANUM.

flowers are nearly 4 inches in diameter, white, with a greenish tinge, and regularly dotted with rich purplish brown—a peculiar combination of tints. The plant is free in growth and flowering, and is now in Mr. R. H. Measures' collection at The Woodlands, Streatham. A first-class certificate was awarded when it was shown at the Temple, and the woodcut (fig. 69) was prepared to show the flower full size, and the raceme in miniature.

*Bulbophyllum amplum* (fig. 70) is a totally different Orchid, and if we had a few more in the genus like it there would be little doubt but that they would become favourites. It has unusually large flowers for a *Bulbophyllum*, the sepals and petals creamy yellow dotted with bright red; the lip is broad and somewhat ovate in form, of a rich maroon tint. The plant was shown by Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking, at one of the October meetings at Westminster last year.

## ORCHID SALES.

It appears that the Orchid sales are becoming more numerous than ever, and the metropolitan auction rooms are frequented by many amateurs and others. The sale of *Dendrobium Phalaenopsis* at Cheapside last week was a great surprise, for the room was crowded throughout the afternoon, and a brisk competition caused the prices to rise to large figures. As much as 28 guineas was paid for exceptionally good specimens, and we are informed that the total was about £2000, the largest amount yet realised for imported Orchids at one day's sale in the City. The *Dendrobiums* were remarkably strong, some of the pseudo-bulbs being nearly 4 feet in length and proportionately stout. The "Golden-eyed Idol" did not seem to be in much demand, for it was disposed of for the modest sum of a guinea.

## CHOICE DESSERT PLUMS.

[A paper by Mr. G. BUNYARD, read at the meeting of the Horticultural Club, Hotel Windsor, Oct. 13th, 1891.]

AN ideal dessert Plum is a fruit that possesses flavour in a highly concentrated form which shall require no outside addition to render it agreeable to the palate. I therefore propose in the following paper to treat only of those which possess this character in a marked degree. It will be necessary to divide them in various classes, though as in all natural subjects, in some cases these will overlap and blend with others. First, Green Gages; second, Yellow and Green Plums; third, Red and Purple Plums; fourth, Purple Gages; fifth, Damsons.

## GREEN GAGES.

*The Old Green Gage*.—Still one of the most delicious of Plums, and in its perfection is not excelled by any others.

*The Late Green Gage*.—Similar in all respects to the original, but is about few days later.

*Guthrie's Green Gage*.—More oval in shape, of brisk sweet flavour, and handsome in appearance.

*Bryanston Gage*.—Somewhat larger than the type, and forms a healthy standard tree; its fruit ripens gradually, it has rather more of Plum flavour than the Green Gage, but is rich and refreshing; rather late.

*Reine Claude de Bavay*.—A large late Gage, fine in appearance, and nearly equal in flavour to the Green Gage. As a sub-section in the Green Gage class I would here include the Transparent Gages, for which we have to thank Messrs. Rivers of Sawbridgeworth.

*The Early Transparent*.—A vigorous grower, and bears profusely.

*The Transparent Gage*.—A sturdy, but irregular, grower, difficult to form into a well-shaped tree. Its fruit is of the Green Gage shape, pale lemon in colour, marked with red dots and stripes, with russet tinges, and is, when fully ripe, a perfect sweetmeat. It is somewhat apt to crack on the tree, but these in perfect fruits are often most delicious in flavour. The late Transparent Gage is a great addition to this class, as it is nearly a fortnight later than the Transparent.

## YELLOW AND GREEN PLUMS.

*Denniston's Superb*.—A medium sized fruit, and is the earliest Gage to ripen. The fruit is oval, mottled with yellow and green; its flesh is tender and true, flavour delicate and refined. It is a profuse bearer, and a capital substitute for Green Gages in jam making. The tree is of moderate growth, and will succeed well in any form. One of the earliest to ripen in August.

*Oullins Golden Gage*.—A very handsome pale yellow Plum of large size. This ripens early in August. It is a valuable garden Plum, and of rich half Gage flavour. It is rather apt to crack, and as a standard does not bear till about ten years old, after which it crops regularly, and is most valuable as an early Plum.

*Jefferson's*.—One of the largest dessert Plums. Long oval in shape, orange yellow in colour, marked with red spots near the stalk; it is a very rich flavour, and a good regular bearer, succeeding in any form. In fact, one of the most reliable Plums we have. It possesses a somewhat thick skin, and on that account is valuable for bottling, and less liable to attack from wasps.

*Bonne Bouche*.—A somewhat similar Plum to Jefferson's but later. It is an admirable grower, produces fruit somewhat like Golden Drop in shape, very rich, sweet flavour and juicy.



*Coe's Golden Drop*.—One of the most useful late Plums, frequently hanging upon a wall until late in October. This only succeeds as a standard in some localities.

*Guthrie's and McLaughlin's Gages*.—Good varieties of rich flavour, more properly classed here than in the Gages.

#### RED AND PURPLE PLUMS.

*De Montfort*.—A medium-sized oval fruit which ripens very early on a wall, and, in fact, is the earliest dessert Plum. Its colour is a curious mixture of green, red, purple and violet, and it is a little known variety well worth cultivation. Its flesh is handsome greenish and peculiarly rich in flavour.

*Stint*.—This new seedling of Messrs. Rivers, a small red Plum, transparent in appearance and the earliest of all dessert Plums to ripen; it is refreshing in flavour.

*Prince of Wales*.—A sweet early Plum of the Orleans race, purplish red in colour, juicy and pleasant in flavour, very free bearer and worth a good place on a wall.

*Kirke's Blue*.—A large violet Plum, rich full flavour; it requires a wall, as it seldom bears freely in any other form. Its appearance renders it indispensable in a collection.

*Angelina Burdett*.—A small delicious fruit of great richness, not so sweet as Green Gage, but of a peculiarly agreeable flavour; it is, however, a sparse bearer, but rather late and useful.

*Tickworth Impératrice*.—A very small late Plum, valuable for October desserts when grown on a wall, where it shrivels and becomes delicious.

#### PURPLE GAGES.

*Comte Althaus Gage*.—A medium-sized purple red Plum with greenish markings, a very nice flavour and profuse bearer. This will probably prove one of our most reliable kinds.

*Red Gage*.—Reine Claude Rouge. A small round fruit of a singular colour, which when fully ripe and partially shrivelled is most delicious.

*The Blue or Purple Gage*.—Reine Claude Violette. This is similar to the red, except that its skin is a different colour. It is equally rich and a valuable dessert Plum.

This exhausts all those with which I am familiar. Purposely I leave out Washington, though a grand Plum when well coloured, but it bears so indifferently that others are preferable, and the same remarks apply to Boddaert's Gage. We have not yet found any of the Japanese Plums to bear fruit, but they are forming good trees, and a new departure may be found in them, but I think in the comparatively flavourless Myrobalan type, as judged by the foliage, it will be understood that dessert Plums are a matter of taste, and in a scarce season many classed as kitchen sorts will be used. The season of Plums commences early in August with Stint, Denniston's Superb, and De Montfort, followed by Oullins Golden, then a large number ripen, and the season is closed by Coe's Golden Drop and Impératrice at the end of September and early in October. This year they are fourteen days later than usual.

#### CULTURAL HINTS.

A few hints on culture may be added. The only objection to fruit grown upon pyramids and open trees is that the rains wash off that pretty frost-like bloom which adds so greatly to their appearance. The flavour is generally better when grown in the open. A wall, however, allows some of the early kinds to be grown for very early dishes on warm walls, and to extend the season by placing some on north walls, but a satisfactory mode of culture is to grow them in pots in a cold orchard house where they can be produced in great perfection and with very little trouble. As I hope some other member of the Club may give us a paper on their culture in this form I need not enlarge upon it here. I feel, however, that in the restricted growth thus induced we get a hint as to their treatment in other forms, and I would strongly advise all wall trees, pyramids and cordons, to be frequently lifted and root-pruned, this will check that overcrowded and hard pruning which prevent the formation of fruit buds.

Plums are among the most useful of fruits, as they can be used half grown (say thinnings) cooked in various forms, bottled, and as a conserve as "Plum cheese," as well as for dessert. It may be added the Early Damson, Frogmore Prolific, the late small Prune Damson, and Bradley's King, are rich and well worthy of the dessert.

#### FLOWERING TREES AND SHRUBS.

[Read at a meeting of the Chiswick Gardeners' Association, October 9th, 1891, by Mr. H. DUNKIN, gardener to the Earl of Warwick.]

IN the many nurseries of this country we have such variety of flowering trees and shrubs that it is somewhat surprising to find so few private gardens in which a really good collection is established. In far too many instances large masses of common evergreens, such as Laurels,

Box, and Yew, are planted without any attempt being made to give variety and brightness. True, these have their uses, and are always desirable for planting under the shade of trees, or where quick growth is required to shut out unsightly objects or create secluded spots; but after due allowance has been made for these facts, there is still abundance of room for the more varied and skilful arrangement of shrubberies. Wherever these are situated in an open position in which choice shrubs appear likely to thrive, the common ones should be very sparingly planted, reserving them for the background, or positions where they are not much seen. My ideal of a well-planted shrubbery is one in which evergreens of various types are judiciously intermixed according to their habit of growth and the varied colours of their leaves, deciduous and flowering trees and shrubs being dotted about at irregular intervals, so that at every season of the year infinite variety of colour is produced, beginning in the early spring months with those harbingers of coming beauty, Daphnes and Ribes, which put forth their refreshing flowers before the tender leaves unfold; these to be followed by Cydonias, Deutzias, Almonds, Cerasuses, Berberises, gorgeous masses of Rhododendrons and Azaleas, Spiræas and Hibiscuses, and a host of others. At the same time changing leaf colourings of such a variety of trees and shrubs are in themselves a constant source of delight. First the pale green of the opening leaves create a lovely scene, then as they gradually develop and assume a deep green colour they look rich and striking



FIG. 70.—BULBOPHYLLUM AMPLUM.

under the influence of bright sunlight; and again, as the dull days of autumn come the bronze and yellow shades of colour which deciduous trees present are to many a greater attraction than the verdant beauty of spring.

I have in the course of my gardening career seen many fine gardens with pleasure grounds abounding in noble specimens of Conifers in great variety, but in very few instances have I seen places which were not lamentably deficient in flowering trees and shrubs. This is to be regretted, for however stately and imposing the noble proportions of sombre-hued trees may be, we want also some bright cheerful bits of colour to relieve the eye, and arouse into enthusiastic admiration those natures which are not easily stirred by arboreal beauty alone. There is much more interest in pleasure grounds which abound in flowering trees and shrubs, as well as gigantic specimens which possess no floral beauty, than can be found in gardens which are planted in the style which is so common. We have a rich store of plants to select from, and there is room for all. By all means let us have grand spreading Cedars, picturesque Firs, stately Oaks, and noble Piceas, but their beauty will be enhanced by a liberal admixture of flowering trees and shrubs. For the greater convenience of all I will divide my subject into three heads, viz., Azaleas, Rhododendrons and American plants; evergreen trees and shrubs; and deciduous trees and shrubs.

#### AZALEAS, RHODODENDRONS, AND AMERICAN PLANTS.

It is generally admitted that all plants catalogued under this heading succeed best in peat soil, and it is always a safe proceeding to plant them in peat, but I know of localities in which they succeed admirably in a stiff yellow loam, but it is not wise to plant extensively in any soil but peat until it has been clearly ascertained that the plants will thrive in other soil that may be at command. Where the expense



of obtaining peat is great, good sweet leaf soil with a little of the natural soil added, answers in many cases remarkably well. The great point to be observed is to tread it firmly at planting time, leave the surface firm, and do not disturb it by hoeing or digging afterwards.

As special preparation of the soil is needed, it is a good practice to plant in beds and masses; and, moreover, the majority look best when seen in masses, but in the case of Rhododendrons, the plan of planting a few of the strong-growing varieties singly on lawns, or near, but not under, the shade of other large trees, I would specially recommend, as when so treated they develop into grand specimens and make a strong feature at flowering time. In the case also of both Azaleas and Rhododendrons, four or five plants grouped together in the foreground of shrubberies are very effective. Andromedas and Kalmias are charming when associated in beds and edged with hardy Heaths. The varieties of Ericas most useful for this purpose are *E. vagans alba*, *E. v. carnea*, and *E. v. rubra*. Among Andromedas the best I know are *A. floribunda*, *A. speciosa*, *A. formosa*, and *A. japonica*. Rhododendrons and Azaleas are so numerous that want of space prevents my enumerating them; but in ordering plants, if the selection is left to respectable trading firms, satisfaction is invariably given.

#### EVERGREENS.

Following in alphabetical order the first evergreen flowering shrub which I wish to call attention to is the well known *Arbutus Unedo*. Flowering as it does in October and November, at a time when the fruit of the previous year is ripe, it serves to brighten the grounds at a season when but few are in flower in the open air. Certainly none is so distinct in appearance as this *Arbutus*, with its pendent scarlet fruits, small white flowers, and deep green leaves. I now come to that delightful class of plants which produce flowers of so many attractive shades of yellow and orange, I allude to the Berberises, a family which I have a special liking for, not only on account of the beautiful colour of their flowers, but also because of their elegant habit. In this respect *B. stenophylla* is the most beautiful, though strange to say it is not so much grown as some of the others. When once its long arching, slender shoots are seen, studded with drooping yellow flowers, it is not soon forgotten. *B. japonica* and *B. nepalensis* are fine varieties, having large leaves, the stems being surmounted with clusters of yellow flowers. *B. Darwini*, *B. duleis*, and the various forms of *Aquifolia* are all extremely useful types. *B. Darwini* and *B. stenophylla* should either be planted singly on lawns or in prominent positions in shrubberies, where they have room to develop their fine branching habit. *Buddleia globosa* is a choice tree, bearing pretty orange yellow flowers. It requires the protection of a wall or a very sheltered position, and rather light porous soil; in such a position it survived the late severe winter here. As also did

*Choisya ternata*, which is a great acquisition amongst outdoor shrubs, producing deliciously scented white flowers, equal in point of merit to Orange blossom. Another very uncommon and beautiful shrub is the Gum Cistus (*Cistus landaniferus*), bearing white cup-shaped flowers not unlike single Roses; and its companion *C. landaniferus maculatus*. These, like the two preceding, require a warm sheltered position with a south aspect. *Cratægus Pyracantha* and *P. crenulata* are useful for covering walls or fences, principally on account of the scarlet berries they produce in the winter; but their flowers are pretty though not showy. *Daphne Laureola* should find a place in every ornamental garden on account of the sweet scent the flowers emit, especially in the evening.

Among *Escallonia macrantha* and *rubra* are the best I am acquainted with, and prove useful for cutting purposes. A particularly useful shrub for supplying cut flowers at the present time is *Ligustrum lucidum*. It produces large panicles of white flowers, which are supported above small green shining leaves. *L. ovalifolium* is another good Privet which flowers in August. *Magnolia grandiflora*, with its large creamy white scented flowers and noble leaves, is grand for planting against a wall having a south aspect; and although well known could not be left out of this list. *Ulex europea flore-pleno* (the double Furze) is very effective for planting in the front of other shrubs, as it is of dwarf habit, and when covered with its yellow flowers is bright and attractive. This closes my list of evergreen flowering trees and shrubs, which might be greatly extended, but I have brought to notice only those that I know to be good and well worthy of extended cultivation.

#### DECIDUOUS TREES AND SHRUBS.

Among these some of the most beautiful of all flowering trees are found, and I have no hesitation in saying that when these are well selected and judiciously planted among evergreens they are capable of creating when in flower one of the most striking features about places where the grounds are extensive. They are also useful for supplying abundance of flowers for cutting.

*Abelia rupestris* is the first in this class which I would bring to notice. Although not perfectly hardy it will withstand our most severe winters in sheltered places. Its small pink sweetly scented flowers are now in full beauty, and though not particularly showy are decidedly attractive.

Many varieties of the *Amygdalus* family are extremely showy when in flower, and as they produce their flowers in the early spring months they are worthy harbingers of rich floral feasts to come. Among the first to flower is the Bitter Almond (*A. communis amara*), the showy rose-coloured flowers of which are generally produced in March. *A. communis dulcis* (the Sweet Almond), *A. c. flore-pleno*, and *A. nana*,

the latter being of dwarf habit, are some of the best varieties. Among deciduous Berberises the several varieties of *B. vulgaris* are the most useful; *atropurpurea* and *fructu lutea* bear purple and yellow flowers respectively. *Calycanthus florida* (the Allspice) should be freely planted in every extensive garden, on account of the delicious odour the flowers emit.

*Catalpa syriaca* is a beautiful tree, which ought to be grown more extensively. Its habit of growth is similar to that of the Tulip Tree, the flowers being produced in panicles, somewhat after the style of those of the Horse Chestnut. The time of flowering is August, and fine specimens of these beautiful trees are grand when growing singly on lawns.

*Cerasus* (Cherry).—The numerous varieties of this are exceedingly showy, and so well known that no further comment is needed here. *Cercis siliquastrum* (Judas Tree) in some places grows into a fine tree, from 20 to 30 feet in height. Its bright purple flowers are produced in May. The wood is also beautifully veined with black. *Chimonanthus fragrans* is conspicuous among flowering shrubs on account of producing its pale yellow flowers in the depth of winter, and is always highly prized where grown.

*Cratægus* (Hawthorn).—The numerous varieties of these showy trees are so well known as to need but little description here, but I am sure my hearers will agree with me that few more lovely plants dot the landscape in the month of May than shapely examples of these hardy trees when their pendulous shoots are wreathed with red, pink, or white flowers.

*Cydonias* are showy for covering walls, but in many cases they are pruned too closely. If long shoots are laid in freely each year they become thickly studded with flowers in the early spring months. This fine shrub is perfectly hardy, and as far north as Lincolnshire it thrives admirably when grown as a bush in an open position. *C. japonica*, *alba*, and *rosea* are each good varieties.

*Cytisus biflorus* and *C. purpureus* are two beautiful deciduous kinds, quite hardy, and the yellow Broom, *C. scoparius*, is bright and showy. I must make a special plea for *Daphne Mezereum* with its pretty red flowers, as it is one of the earliest shrubs to flower in the spring, and is perfectly hardy, but unfortunately not very extensively grown. There are, I believe, autumn flowering varieties, but I have had no experience with them.

*Deutzias*.—These shrubs are very useful, the pearly whiteness of their flowers, which are produced in great profusion, render them particularly suitable for cutting purposes. *D. corymbosa*, *D. crenata*, *D. crenata flore-pleno*, *D. candidissima* and *gracilis* are all good, the last named being of much dwarfer habit than the other varieties.

*Forsythias suspensa* and *viridissima* are charming yellow flowered subjects of elegant habit of growth, suitable alike for covering walls and for growing as bushes in shrubberies, or as isolated specimens in conspicuous positions. The flowers, being produced in March, are especially welcome.

I find that my paper is becoming unduly long, while I have yet many to deal with. I will, therefore, confine myself to giving a list of those subjects which I wish to bring before you, giving their dates of flowering. This list I will append below; but before doing so I will pen a few lines about two others not generally known. The first is *Paulownia imperialis*, which forms a handsome tree, in habit of growth similar to the *Catalpa* already mentioned, but the leaves are larger and downy, flowers pale violet with dark spots on the inside. The late Mr. Kitley of Bath was, I believe, the first to flower this in England.

The Macartney Roses, *Alba Simplex* and *Rosea Simplex*, are not often met with; but they are fine for training against walls in warm positions. We have a thriving plant flowering here at the present time which is greatly prized, and wherever grown are certain to be appreciated.

In conclusion, let me urge upon my hearers the great pleasure and many benefits to be derived by planting a greater diversity of flowering trees and shrubs than is generally done wherever they are engaged in the formation of pleasure grounds, and in the innumerable instances where large masses of evergreens already exist which possess no special feature, except it be a large expanse of monotonous greenness.

#### VEGETABLES AT HIGHCLERE.

WILL "Observer" say in what respect the notes on vegetables at Highclere do not denote Mr. Pope's connection with either the growing or the showing of them? Surely because one or two dishes were omitted from a collection which "Observer" thinks ought to have been there, does not warrant the inference that what information I there gave on his methods for the benefit of Journal readers was not correct. To the experienced in matters of vegetable showing the reason for the omission of the kinds quoted will be obvious. As I am not in the habit of imparting "assumed" information I can afford to pass over the opening paragraph. Why Mr. Pope had no Turnips in his collection at Edinburgh I am unable to say, it did not occur to me to ask. The reason Cucumbers are more appreciated during September than in August is not difficult to answer—simply because they are not so easily obtained. Where space is limited for their growth the plants which have borne during the summer become a little exhausted by September, and consequently do not produce fruit up to exhibition form nearly so freely. This, no doubt, was the reason why there was an apparent necessity to "comment" on their absence from his collection at Edinburgh. I have not studied the prize list of the show in question, therefore cannot



judge as to the conditions there stipulated, but even judging from "inference" there was no occasion for strong "comments," as to the omission of Cucumbers, because I fail to see how Mr. Pope was "sailing near the wind," as "Observer" infers. Because the second list of prizes for collections of vegetables were not to contain "Cucumbers or Tomatoes," that is no reason why the first list should do so.

We do not usually expect Lady Downe's Grapes ready for the table before early in November, which is fully four months after the period quoted by "Observer," therefore the "parallel" drawn is some distance from the mark. Relative to the Parsnips which were staged a very short time before the stated time when they "are a strong dish." If Parsnips are not in season during September, how is it that such a Society as the Edinburgh Association offer prizes for them alone? I presume Mr. Pope follows the line adopted by sensible men in making up his collection—viz., that a good dish of any one kind if a little out of season (which after all is a matter of opinion) is preferable to a bad "seasonable" one.

I am quite aware that a dish of Globe Artichokes can be cut from the same plants year after year, but in what month? I would ask. Certainly not fit for show in September. "Observer" here displays a want of practical knowledge, or he must know that the same ten-year-old roots will not give heads up to exhibition form in September after having fruited since the early part of July. The reason Mr. Pope included Leeks of such inferior quality as "Observer" describes in his collection is obvious to all I should say, which in spite of their inferiority as Leeks could not have been so extremely bad after all, or the collection would not have been placed where it was by competent Judges, as I presume the adjudicators were. It would indeed be a curious collection of twelve varieties of vegetables which did not contain a single dish to make some "wonder."—THE RAMBLER.



**EVENTS OF THE WEEK.**—To-day (Thursday) the Fruit Show and Conference will be continued at Manchester, the Conference opening at twelve noon. On Tuesday, October 27th, the Royal Horticultural Society's Fruit, Floral, and Orchid Committees will meet in the Drill Hall, James Street, Westminster, at twelve noon; and in the afternoon Mr. H. J. Veitch will give an address on "The Autumn Tints of Trees." The National Chrysanthemum Society's Floral Committee will meet in the Royal Aquarium, Westminster, at 2 P.M. on Wednesday, October 28th. Messrs. Linden of Brussels advertise a sale of "200 plants in flower of the true *Cattleya labiata autumnalis*" at Messrs. Protheroe & Morris's Rooms, Cheapside, October 30th next, which will, no doubt, attract a large number of purchasers. Messrs. Protheroe also advertise sales of Orchids for Friday, October 23rd; Church Fields Nursery Stock, at Cheshunt, on October 28th and 29th; and Nursery Stock at Havant on the same days.

— **ROYAL HORTICULTURAL SOCIETY.**—The next meeting of the Floral, Orchid, and Fruit Committees will be held in the Drill Hall on Tuesday, October 27th, when the Society holds its usual display of new and rare plants, besides which special prizes are offered in the schedule for cooking and dessert Apples and Pears, as well as for varieties of Grapes. Intending competitors should at once communicate as to the nature of their exhibits to the Superintendent, R.H.S. Gardens, Chiswick. In the afternoon at three o'clock Mr. Harry J. Veitch, F.L.S., will read a paper on "Autumn Tints," and specimens of trees, shrubs, or other plants indicating the season will be welcome as illustrations.

— **THE WEATHER.**—The gale last week was very destructive, much damage to trees being reported from many districts around the metropolis and elsewhere. Large trees were uprooted in many cases, and fruit was swept from the Apple and Pear trees in exposed gardens. Heavy rains have also prevailed, with intervals of bright weather, and exceedingly clear nights. Slight frost has been experienced in some places sufficient to blacken the Dahlias, but this has not yet been general.

— **THE CRYSTAL PALACE SHOW.**—Mr. R. Silk, gardener to J. Abernethy, Esq., C.E., Whiteness, Margate, sends us an exhibition card, from which it appears he was awarded the first prize in the class for the best flavoured Pears. In our report the name of the first prize-winner, which was taken from the Crystal Palace Company's official prize list, was given as Mr. W. A. Cook of Compton Bassett. Willingly we make this correction.

— **NITRATE OF SODA AS A STIMULANT.**—I do not wonder at the results obtained from the use of nitrate of soda on Cucumbers and Celery, as described by Mr. H. Dunkin, page 321. I have long had a high opinion of it as a manure. This year I tried it with dissolved bones in two parts to one of nitrate upon Apple trees, and with capital results. About the middle of July a good dressing of this mixture was spread on the surface, washing it in with clear water. The leaves quickly assumed a deep green colour, and had a leathery substance, making good growth, but not too rampant. Fruit of Lord Suffield on trees so stimulated swelled rapidly to a much greater size than hitherto. One fruit weighed exactly 1 lb., which is heavy for this variety, as it is not a weighty Apple for its size. Many other varieties show a similar increase in the size of their fruit. One tree especially of Tower of Glamis exhibits a marked improvement, both in its foliage and the quality of fruit borne. This tree had not been a success previously, but the application of so stimulating a manure as nitrate of soda seemed to give new life to this tree.—E. MOLYNEUX.

— **WARE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—At the usual fortnightly meeting, held on the 14th inst., an excellent paper was read by Mr. H. Brown on "Exhibition Onions." Practical hints were given on growing Onions generally, as well as how to grow them for exhibition, and some very fine Ailsa Craig Onions were shown by Mr. Brown. A good discussion followed, and the usual vote of thanks brought the meeting to a close.

— **THE HORTICULTURAL CLUB.**—The first monthly dinner and conversazione for the season 1891-92 was held on Tuesday, Oct. 13th, at the Club rooms, Hotel Windsor. Owing to the tempestuous weather the attendance was smaller than usual. The subject for discussion was Choice Dessert Plums, a paper on which was sent by Mr. Geo. Bunyard, who through illness was unable to attend. The paper was read by Mr. Charles T. Druery, and an interesting conversation followed, during which many interesting facts were brought forward by Messrs. Cheal, Soper, Cousens, Walker, &c., and a vote of thanks was given to Mr. Bunyard for his paper, which will be found in another part of our paper.

— **A MOTH TRAP.**—A simple but most effective contrivance for trapping the female Apple Moth is used by Mr. Hobson, the Chairman of the Sutton Coldfield Gardeners' Association, in his garden at Sutton. It consists of a strip of zinc made into a circular form, and is covered with calico fastened round the sides and tied at the top around the stem of the tree. It is really a crinoline, and open at the bottom. The interior is partially filled with a composition made of pitch and any fatty matter, such as kitchen fat or oil, of sufficient consistency to remain in the trap, and the female moth in climbing the stems cannot escape, but is a prisoner in the sticky substance. These should be applied in September; and in one week thirteen female moths, several snails, and a score or two of earwigs were caught in one trap. As these traps can be made at a very trifling cost their use should be general.

— **A FRIENDLY STORM.**—A correspondent, Mr. M. Birt, writes from near Godalming:—"Tis an ill wind that blows nobody good." In January, 1887, an Apple tree on a sloping lawn was blown flat down, and so remained under snow, often frozen for nearly three weeks. It was then raised, broken, tended, and has given its beautiful Blenheim Orange fruits yearly, still leaning considerably to one side, propped up by two supports. During the late gale the wind raised the tree, dragging with it the beam and strong pole, raising the former clear off the ground, and as the trunk returned dropping it down and forcing it safely into the ground, leaving the tree upright. The beam had been fastened by a large iron pin or bolt, driven at the edge of it in the grass, and the beam is now 18 inches from the pin. The tree settled into its original position so firmly that instead of standing as if on a mound, it is now in a slight depression.

— **GARDENERS' ASSOCIATIONS.**—One of these societies was formed at Sutton Coldfield, near Birmingham, some four or five years since, is an affiliated branch of the Birmingham Society, it numbers about forty-five members, owns a select library of gardening books, with powerful microscopes, and has a balance of £8 or £10 in the bank. The autumn session was opened on the 6th inst. by A. W. Wills, Esq., J.P., so well known in the Midlands for his collection of Orchids, with an instructive illustrated lecture on the "Use of the Microscope." The programme for the autumn season comprises "Lessons from my Garden," "Plant Physiology," "Entomology," "Fruit-growing for Profit," "A Night with the Microscope," "The Chrysanthemum," "The Culture of the Mushroom," "Notes on some Garden Favourites,"



"The Kitchen Garden," and "Flowers of Fame." Meetings are held once a week, exhibits invited, and questions are freely asked and answered. The Society is doing good work, and is very popular in the district.

— THE CHICAGO EXHIBITION.—It is said that half a million Pansies, one hundred thousand Roses, and millions of other flowers, including every known variety and species, will be seen at the Exposition. The horticultural exhibit will be on a scale never before attempted in the history of the world. Mr. Thorpe, of the floriculture division, estimates that the equipment of the horticultural building, including the purchase price of plants, will be 350,000 dols., and the total expense of the display 750,000 dols. The floriculturists of the country will give a large share of the plants. Ten of the 16 acres of ground on the wooded island will be planted with flowers. The shores of the island will be left wild for scenic effect, and the waters around the margin of the island will be bright with Water Lilies and other aquatic vegetation, while the interior of the island will be planted with Roses, Rhododendrons, and Lilies, besides a vast variety of wild flowers, which are at present preserved in a nursery on the island.

— INARCHING LATE GRAPES ON MUSCAT OF ALEXANDRIA.—Your correspondent, Mr. Craig, page 306, asks for the experience of others in the above named matter. I have inarched and budded Madresfield Court on Muscat of Alexandria, which is a success, producing fine berries and colouring fairly well. Gros Maroc does fairly well; in fact I have had some fine Grapes from a rod budded on Muscat of Alexandria, but I think the scion is too strong for the stock. The scion is very fruitful, but the stock is not quite so fruitful as before the Gros Maroc was worked on it. I likewise have Golden Champion inarched on the same with good results, and lastly Gros Colman. In this case the scion seems to absorb all the fruitful principle of the Vine, and has done so for the past two years. The rod of Gros Colman shows enough for two crops, and the rod of Muscat side by side has been barren. Although the Gros Colman has been very good I do not think it good enough to render a Muscat of Alexandria so unfruitful, and at pruning time I shall be much tempted to sever the connection.—R. MAHER, *Yattendon Court, Newbury.*

— RAINFALL IN HAMPSHIRE.—Although a considerable amount of rain has fallen here during the past week we have not registered as much as last year at the same time. Last year on the 9th October 23.11 inches of rain had fallen, while up to the same date this year 22.98 inches is recorded. The year 1890 was regarded as being under the average; therefore, we still have a quantity to make up. Although the rain seems pretty continuous, a great amount does not fall in a short time if I except the 6th of the present month, when the record was 1.19 inch. As showing the great variability of the rainfall at certain times of one year, I may instance the first nine days of the present month as compared with the same period of last year, when but 0.23 inch was recorded, which fell in two days. This year 2.44 inches is the recorded amount, and out of the nine days three were dry. Quoting from last year's register, we have but 1.20 inch to make up for the present month. Last year, in the month of October, we had twenty dry days, and upon seven others but 0.30 inch fell. Where much preparation is required for tree planting the present rains are a great boon, rendering the soil thoroughly moist, so that an early start can be made.—E. M.

— THE "American Garden and Forest," in reporting a meeting of the POMOLOGICAL SOCIETY IN WASHINGTON says that "The most entertaining discussion followed an address by Mr. Meehan on the 'Influence of Heredity and Environment in the Origination of New Fruits.' Mr. Meehan spoke without notes for half an hour very forcibly to prove the baselessness of the notion that any change in varieties could be produced by their surroundings, and he fortified his arguments with a wealth of illustrations drawn from human history as well as from plants and animals under domestication. Dr. Riley attacked the position of Mr. Meehan with great vigour, and Professor Bailey added that he was unwilling to allow it to be placed on record that the American Pomological Society held heterodox opinions on so capital a point, and cited numerous examples of variation in plants which he attributed to their environment. Mr. Meehan replied with great good humour that his critics evidently did not understand what was meant by the term environment; and then Mr. Fernow added that if there was doubt as to the meaning of the term environment there was also ambiguity in the use of the term variation, which might be structural or functional, and it was necessary to know whether we were talking about morphological variation or biological variation. The discussion

became enveloped in a haze of uncertainty, as it appeared that none of the gentlemen were quite sure what the others were talking about, and it finally closed in a thick fog. It was very instructive and interesting, however, to the laymen."

— PECULIARITIES OF HYBRIDISM.—Mr. Oberswetter, Austin, Texas, says in *Meehan's Monthly*:—"I find in Baker's handbook of the Amaryllideæ, the most recent authority on this order of plants, that it is not yet recorded by science that a hybrid between a *Crinum* and *Amaryllis* (*Hippeastrum*) was ever raised; but I find pleasure to inform you that I succeeded in raising a hybrid between *Crinum Kirki*, pistillate, and a hybrid *Hippeastrum* as pollen bearer. The plant was raised this spring. The seed I obtained last year, but did not germinate till last spring. I have been trying for years to cross these two genera, but never succeeded, so that I thought Nature had interposed insurmountable barriers. Last year I tried simply to cross different species of *Crinums*, and when giving pollen to the stigma of a *Crinum Kirki*, the thought occurred to me that it would not do any harm if I put *Hippeastrum* pollen on the stigma before administering the *Crinum* pollen. I had about five grains of seeds, but owing to mismanagement only two plants came up this spring, one a *Crinum* pure and simple with long leaves; the other had a different habit from the start; the first two leaves are not more than an inch long, but broad, ovate, and acute. Then a perfect leaf was developed over 4 inches long, nearly an inch broad, folded doubly over in vernation, so that it looks somewhat plicate. The leaves are much harder to the touch than the leaves of its twin plant, appearing as if glazed, light bright green, very upright, bluntly, cordate, acute. Since that first fully developed leaf it has just perfected another, longer, but of the same proportions."

— IN MEMORIAM—CHARLES SIMMS.—A name very little known even amongst those who cultivate the flower, in the management of which he was such an adept—the Tea Rose, but no one who has ever visited the garden of Birch Vicarage but has had something to say to "Charley." He was but a lad, but he was a born rosarian, and I have never seen a better judge or a more accurate observer. He was quiet and unobtrusive, did not bluster if his employer was beaten, and was the first to acknowledge it when fairly done. So good was his judgment that if Mr. Burnside was away at a show, and wanted to exhibit at another without going home, it was quite sufficient for him to write to Charley and tell him to put up a box of eighteen or twenty-four. It would be done without a mistake; there was no fear of duplicates or wrong flowers being put in, and experienced as Mr. Burnside is as a grower and exhibitor, he has often told me that he could thoroughly rely on him. To his employer the loss will be irreparable. Such lads are few and far between. Once, indeed, poor Charley did make a mistake when Mr. Burnside was going to exhibit at the Tea and Noisette exhibition. In his confusion he left the box of "spares" behind him at the railway station near Birch, and it is quite certain he flogged himself about it, although his kind and considerate master took it calmly enough. It was a very great shock to me to receive a note from my friend Mr. Burnside that the poor fellow had died under the effect of chloroform previous to an operation he was to have undergone, and so passed away a young life full of promise, but, who knows, perhaps saved from the evil to come.—D., *Deal.*



#### EARLY FLOWERING CHRYSANTHEMUMS IN 1891.

THE progress in these plants in England this season can only be fitly described as a revolution. The year commenced in February by the reception in this country from France of the catalogues of the French raisers, and chief among them was one from M. Délaux of Toulouse, who sent us not only his usual list of late and early varieties, but a special catalogue of 125 new sorts, said to be early. It almost seemed as if he, seeing that we were beginning to raise some of these sorts ourselves, meant to show us how insignificant we were, and so we may be in that direction, but then perhaps had we not devoted past years to the speciality, he and others might not have thought it worth their while to grow such sorts at all. Rivalry is useful to promote progress, all thanks to our continental friends for their part in the fight. As a matter of course, when we read their flowing descriptions, and think of the many expenses and the labour we have wasted in growing many poor sorts



among the good ones they have sent us, we take what they write not only with a grain of salt, but a good heap of it.

This season has been very unfavourable for their growth and testing in this country, being three weeks or more later than an ordinary one, in consequence of which I think that some which I cannot place as early—that is, flowering before the end of September—may in another year be fairly classed as such. As usual I will deal with the two Shows first. At the Crystal Palace Dahlia Show on the 4th and 5th of September the usual three prizes were offered for groups of early flowering Chrysanthemums, which were taken in the following order:—Messrs. Reid & Borneman first, Mr. H. J. Jones, of the Ryecroft Nursery, Lewisham second, and myself third. In relation to this first prize here and at the Aquarium Show, where also the first prize was awarded to the same firm, it will be well to state that these two groups were not by any means wholly composed of early flowering sorts. If this is allowed to go on, for it was commenced last season, the result would be that others to win the prizes would have to use the late kinds too, and thus pervert the show from its proper uses. It may be as well to name some of the sorts placed in these groups—W. H. Lincoln (Marvel, syn. Spiralis, syn. Mrs. Wellam), Elliot T. Shepherd, Charlie Sharman, Carew Underwood, M. Freeman, and Mrs. Alpheus Hardy. No one would class these plants as early, they were plants that had been forced out of their season. Many growers know that if a piece of an old plant or a young plant struck the summer before is grown that it will flower earlier than a spring-struck plant, and also that if the first bud that appears is kept and all the other side shoots and buds are taken off, that many sorts can be had in bloom early, especially if forced with fire heat; in fact a whole group could be made up in that way by selecting the right sorts which are well-known to experienced growers. A lady or gentleman comes to the show and sets down the names of some that they might decorate their garden next season, and sends an order for a dozen Mrs. Alpheus Hardy, which will not only not bloom early but very often not bloom at all even in a greenhouse, much less in the open garden.

I am rather at a loss to understand how the Judges should in two distinct cases let such a thing pass, but have an idea that Chrysanthemum judges are so much schooled in the matter of the late kinds and judging of individual flowers that they are wanting in appreciation of these sorts. I am attaching no blame to them. I think it is inadvertently done, just as architects apply the pattern of a Greek or Roman temple to a post office in London or an orphan school at Clapton. I admire the Maison Carée at Nîmes as a proper temple for the gods of the Romans, but not as a post office in London. There is an increasing number of new sorts fit for the purpose without forcing late ones, Bouquet de Dame and M. Bahuant for instance, which are both so early that they are unfit for the late shows and fulfil the conditions of growing such are applied to the late sorts.

At the Aquarium Show on September the 9th and 10th Mr. E. Vince of the Highgate Cemetery, north of London, took the second prize for a group; Mr. H. J. Jones of Lewisham third; and Mr. N. Davis of Camberwell had an extra prize for his group. These were all good for the season, but not remarkable, except in the case of Mr. Jones', for having many new sorts of the season contained in it. In the class for cut flowers Mr. Owen of Maidenhead was first, Mr. Ware of Hale Farm Nurseries, Tottenham, London, was second, and Mr. E. F. Such of Maidenhead third. Mr. Owen exhibited for the first time in England several of the new French early sorts—namely, Jules Paquet, Mde. E. Lelfort Pompons, for which he was awarded certificates, the latter being very similar and not any better than the new Pompons, Mde. Albert Colmich and V. Chiquot, all orange coloured, and perhaps V. Chiquot is the best. He had also for the first time as cut flowers M. G. Dubor, a fine orange yellow Japanese, Madame Louis Lionnet, a large incurved pink; M. Zéphir Lionnet, a fine magenta Japanese, Mme. Eulalie Morel, fine cerise Japanese, M. Vauvel, a fine pink Japanese; Vice-President Hardy, very fine orange Japanese, and M. G. Dabor has a slight twist in the centre, and seemed the best of the Japanese exhibited. I should explain that all those fine flowers had been grown on disbudded plants. He also exhibited two very fine crimson flowers of Souvenir de M. Menier, also from disbudded plants, but from my own experience it is not so good when grown naturally. On a visit to Mr. Owen at Maidenhead on September 21st, among many promising seedlings and others I saw some flowers of a new seedling of his raising named N. Molyneux; this is much in the style of E. Molyneux, but purple inside the florets, and with a kind of whitish-grey outer surface. These, of course, were from disbudded plants.

At Mr. Ware's nursery, Tottenham, on September 16th I saw in bloom the new sorts Madame Chauvin, pale magenta Japanese; M. Francis Katzer, a new coloured red orange Japanese; Chevalier Ange de Banderia, a pink Japanese; M. Lemailles, a deep pinkish bronze; and M. Leheureux, a yellow reflexed. I was much impressed on that occasion with a patch of the early Pompon White Lady planted among others in the open field, which bore much finer flowers there than the plants I had formerly grown in pots, and this has demonstrated to me its suitability for the open garden.

I was very fortunate in a visit to the Ryecroft Nursery of Mr. H. J. Jones at Lewisham on the 29th of September, for he had just completed a lean-to structure, with lights and wood about 8 or 9 feet wide and 100 feet long, which he had filled with plants of new and old early flowering Chrysanthemums, mostly in full bloom. There were about 1000 plants here, which formed a grand display, the finest I have ever seen. They were well-grown plants, mostly disbudded, and as they had

only been under glass a day or two had not lost any perceptible colour, which the bright and dark-coloured ones very soon do when housed. This show was a credit to any grower, and much more so in the present case, owing to the great expense and labour in the production of it, due to the number and very high price of the many new and expensive varieties. One had a French list price of 30 francs, and many more prices, ranging 20, 15, and 10 francs each this spring, besides others from other sources than France, but little less dear. I myself have grown many of the best of these, and can well testify to the cost and labour such collections entail.

In an effort to particularise the best and most worthy of cultivation among nearly 150 new sorts of the season one must necessarily fail to some extent, not only on account of the number, but to the fact that in an unfavourable season like this probably we have lost the opportunity of testing which more favourable summers would have afforded. It is possible that unknown merits may be found another season in some of those of which we at present think but little.

I will try and deal with some of the earliest first, and foremost is M. Gustave Grunerwald. I believe this has a great future before it. My own plant had been too weakened to do it justice, and my estimate was low, but on seeing other plants in far apart places found it to be a fine strong sort, though not so coarse and robust as some, still the flowers a kind of light lilac or pink, seemed of no particular merit, and by no means justify M. Délaux's description, which I translate thus: "Here is, without contradiction, the most beautiful and the most remarkable variety of Chrysanthemums that exists." He gives the height at 35 centimetres, or about 14 inches, but I think it will grow generally about 18 inches. The opinion I had formed from the above plants was quite changed one day on a visit to Mr. N. Davis's nursery at Camberwell, for there was a plant in its first bloom showing the most delicate and elegant flower ever seen at this time of the year. The plant was slender with very few leaves and a mass of flower buds on the top besides the flower that was just fully out, which was about 3 to 4 inches across in the form of a half-ball with narrow petals filling up well all over, with just enough curve and twist to add that exquisite refinement which so distinguishes the flower. It was nearly pure white, grown as it was at the very light end of a glass house. I visited this plant on three occasions weeks apart, and it seems to be as M. Délaux states, "Continuellement en fleur." I am not sure how it was that this plant demonstrated so much better the great merit of the variety than the others, but have a strong suspicion that much of it was due to the skill of Mr. N. Davis. For anyone who may have seen Mons. Délaux's engraving of the flower I may say it conveys the idea that the florets are broader and coarser there than in the flower itself, especially in the middle. It is very early, blooming at the beginning of September.

Perhaps the next new plant in importance is Baronne G. C. de Briailles. This is one of the most striking of the early varieties yet seen. It is a very stout robust plant, growing 2 feet 9 inches high, with flowers about 5 inches across, composed of rather broad and stout florets reflexed. The blooms are durable and nearly white, slightly flushed pink at the outer ends of the florets. The blooms come out at different levels, so that no buds need be taken off to let them all expand. It is a good grower, the habit nearly all that can be desired, and it flowers at the end of August.

Vicomtesse d'Avène.—This is a good pinkish lilac incurved variety, very dwarf, and fairly stout, about 20 inches to 2 feet high. Flowers about 3 inches across. Very early, blooming in August. It is of stout woody habit, and very rapid in coming to perfection. Thus a cutting inserted on May 21st was in flower by September 25th.

J. B. Duvoir, not Madame de Dubor, for which the name may be mistaken, is a most beautiful Pompon, perhaps the finest of all the early Pompons, and quite equal to any of the late ones. It is not perfectly white in the open, but is so under glass, and its extreme delicacy of appearance renders it very attractive. The blooms in August were 2½ inches across, very full of florets.

Ami Mezard flowers at the end of July, strikingly novel in appearance, 2 feet high; flowers 4 inches across, composed of broad ribbon-like florets of a blushing pink to yellow; profuse bloomer, and fine stout habit.

Madame Zéphir Lionnet is very fine orange yellow reflexed variety, 2 feet high, flowers 3 inches across; profuse and excellent bloomer; very early, blooms in August.

M. Dupuis is very bright orange yellow, much reflexed, flowers 3 inches across. Plant 18 inches high. This is the best in its line, and with Madame Zéphir Lionnet form the best pair of the kind, and a considerable advance on sorts in cultivation previously, as they both bloom in August.

Réné Chandon de Briailles blooms in July; 2 feet high; flowers 2 inches across; reddish violet striped with white on the petals.

Coral Queen was raised by Mr. Owen; most striking colour of pink coral; Japanese; 3 to 4 feet high, flowers 4 inches across, each one with a good stalk, so that the flowers are not crowded together. It forms in the garden a most striking object, as it is a very free bloomer. It is of good habit, and is an excellent sort altogether. It flowers in September.

Gloire d'Astafort is much the same colour as the above, perhaps the ladies will call it terra cotta. It is a Japanese, flowering at the end of September, of rather slender habit and spare foliage, but good bloomer with long stalks; 4 feet high; blooms 4 inches across.

Ruby King, raised by Mr. Owen, a very fine stout dwarf plant requiring no stick; reflexed crimson; flowers 3 inches across, produced



in immense quantity; 2 feet 6 inches high, and so strong that the stems of my plants 2 or 3 inches above the mould measure five-eighths of an inch in diameter. It flowers at the end of September.

M. Louis Lionnet is a salmon pink or flesh pink Japanese 2 feet 6 inches high; blooms 3 inches across, produced at the end of August.

Le Poète des Chrysanthèmes is a red mauve Pompon, grows 3 feet 6 inches high, of slender habit and spare foliage; profuse bloomer; flowers  $2\frac{1}{2}$  to 3 inches across; blooms at the beginning of August; very good variety, unlike all others.

Silver-mith was raised by myself from seed grown here. Very stout plant and free bloomer; ball like white flowers 2 to 3 inches across; plant 2 feet 6 inches to 3 feet high; good doer and requires no sticks; blooms in August.

Vice-President Hardy is a very fine fire red Japanese, will bloom well all over the plants; excellent habit; 3 feet 6 inches high; flowers 4 inches across, with somewhat drooping petals of a fine transparent shade of colour; blooms end of September.

M. Frédéric l'Usmayer is a very fine reflexed Japanese; orange flushed crimson, 4 feet high; flowers 4 inches across; profuse bloomer in September.

The following are all very early. Madame Gabus, lilac, broad petal; Pompon, 2 feet high; flowers 2 inches across. Raol Chandon de Briailles, pink lilac, 2 feet 6 inches high; reflexed flowers, 3 inches across; robust grower; a little like Pink Christine. Madame Mathilde Cassagneau, large flowered salmon pink, 2 feet high; flowers 4 inches, very much reflexed. M. G. de Dubor, resembling P. Van Geert, 2 feet 6 inches high, with long slender petals; fine orange yellow Japanese.

Rather later than the above but all good sorts are Madame Ve. Pasquier, white and primrose; Gaston de Chandon de Briailles, pink reflexed Japanese; M. Pierre Cassagneau, crimson reflexed Japanese, with slight blue tint; Madame Dufosse, fine red orange Japanese, 3 feet high; Madame Bellau, large pink Japanese, very good, a little like Pink Lacroix; Carrie Denny, orange incurved; Camille Bernardin, purple reflexed Japanese.

I think it desirable that the attention of many cultivators of flowers for that time between the middle of September and the same time in October should be called to the merits of the now not quite new Comtesse Foucher de Careil. It is a Japanese of the brightest orange red, very dwarf and stout, with a flower bearing capacity of the greatest abundance, the whole top of the plant being covered with masses of flowers. It has no equal at the time of year for brightness of colour or profusion of bloom, moreover being at this time a most fashionable and saleable colour. It is so stout and dwarf that it requires little or no support, and yet the branches are well fitted for cutting purposes; besides all this, it is robust, a good doer, as well as good to propagate. Blooming as it does at this time of the year, being too late for the early shows, and not late enough for the late ones, it has not the chance of becoming known as it is worthy to be. I can recommend it with great confidence to all growers.

It is as well also that a little more should be said as to the merits of Arthur Crepey, a new one of last season. It is a most famous sort, resembling in foliage the Desgrange family, from which it is probably a seedling, but this resemblance is only slightly existent in the flowers, they having a distinct reflex form. They are of a primrose or pale yellow colour, but nearly white under glass, and valuable as some relief from the now common prevalence of the Desgrange type; besides the plant is of better habit, each flower stalk being longer, the flowers grown naturally do not come so huddled together, making each separate spray more elegant and charming. Beyond all this it is a much better plant for propagation, making it altogether one of the most desirable varieties ever sent out. It has a further recommendation—viz., that it comes rapidly to maturity from cuttings. For this season, adverse as it was, I had single buds put in on the 3rd of April, plants in bloom on the 20th of August, these being very dwarf and bushy, and the flowers being 3 to 4 inches across, the earliest flowers being out by the end of July.

In conclusion it may be well to say a few words as to the times of the two shows of those early and demi-early sorts. At present the Crystal Palace Show is, say on the 4th and 5th of September, and as that is decided by the Dahlia Show it cannot be moved; but as the Aquarium Show is only one week later it is too soon, because, unless an exhibitor has two sets of plants, those damaged at one show often not being fit for the second so soon after; besides, the time is too short for other sorts to come out. But if the other show were held at the end of September it would give a chance for sorts to be shown which now are not able to be exhibited publicly at all. Thus some excellent sorts are not made known—to wit, Comtesse de Foucher de Careil, which is superb at the end of the month, besides several others, especially now there are so many new sorts. I will try, if possible, to say something more on the October flowers later on.—W. PIERCY, 89, Beadnell Road, Forest Hill, London, S.E.

#### CHRYSANTHEMUM PROSPECTS FOR 1891.

AFTER all the labour and anxiety connected with the culture of the Chrysanthemum I am afraid we are not going to have a good year; the dull damp summer will cause many growers to remember the summer and autumn of 1891 with feelings of disgust. I know here in Grimsby we shall, I think, be below the mark with several varieties. I find there are a quantity of blooms coming deformed, notably Jeanne d'Arc, one of the most constant varieties, plants that are equally as strong as last year showing but poor blooms. Avalanche, another constant variety, seems to be coming only thin. Stanstead Surprise, Mrs. J. Wright, Sunflower, Madame C. Audiguier, Mrs. Beale, Jeanne Délaux, and

several others are coming moderately well. I suppose we have the sunless summer to thank for it. On the other hand some are showing great promise, notably Miss Esmeralda, Puritan, Vivian Morel, likely to be a great beauty; Coronet, also showing great promise. Others most notable are Violet Tomlin, Frédéric Marrouch, W. H. Lincoln, very good; Bouquet de Dame, Eynsford White, and W. W. Coles, all showing good blooms.

The plants around this neighbourhood, as far as the growth is concerned, are the finest ever grown in this locality, and if we had had a good summer, so that they could have their plants well ripened, there would have been some excellent blooms. There will be some as it is, but I do not think they will be so good as they might have been. I have seen good blooms of the new incurved Mr. Robert Cannell, also of Louis Boehmer, which ought to be in every collection. I think next year when it is better known it will be eagerly sought after. Gloire de Rocher is a most charming variety. It has two good qualities, it is constant, also of dwarf habit. I have seen two excellent blooms.

Damp seems to be very prevalent, and I warn all young growers to keep a strict look out. Various remedies have been tried. I know many growers in their endeavours to keep their plants right for a certain show keep them outside too long. No plant ought to stay out any longer than when the bud begins to show signs of opening. If kept outside while they just begin to show their petals you cannot stop damping. I find the best remedy is to put them inside as soon as they begin to open the outer scale that covers the petals. After you get them housed and the blooms begin to expand, give them on dull days a little fire heat, admit plenty of air, and keep the plants at the roots somewhat dry. The wood is very sappy, and too much moisture at the roots leads to certain failure, so again I warn all beginners to be careful.—ONE INTERESTED, Grimsby.

#### CHRYSANTHEMUMS AT CHILWELL.

CHRYSANTHEMUMS at Chilwell will soon be one of the sights of the floral world. The sight is indeed remarkable now, as will be found by whoever may make a journey to see the collection. The chief display is in a light and lofty span-roofed house 100 feet by 30. The banks slope from the eaves to the broad central path, the plants in bloom being about 6 feet in height at the back and 18 inches in front, the end opposite the entrance being furnished in the same way.

Perhaps the most striking variety at present is M. R. Bahuant, a very fine incurved variety, up to Queen of England in form and substance, but with broader and rather shorter florets; colour carmine rose, shaded cerise. It is a strong grower, of good habit, and the blooms seem likely to keep well. Mme. Frédéric Mistral is a very promising novelty, with the form and colour of Alfred Lyne, but a much better flower. Robert Cannell is showing well. The most noticeable of other incurved varieties are the Queen and Princess of Wales groups, while Mrs. Shipman and Barbara are good.

Of new Japanese Flora McDonald, Mistletoe, Yonitza, Mermaid, Evalien Stein, a very long-petalled blush variety, Mattie C. Stewart, Olga, and Progression are the most noteworthy.

Last year's novelties are well represented, the best of which, Alberic Lundén, César Costa, very rich; Gloire de Rocher, Kate Murrell, Louis Boehmer, fine buds; Mlle. Marie Hoste, Mrs. W. Sargeant, a grand incurved yellow; Miss A. Hartzhorn, Vivian Morel, Sylphide, W. H. Lincoln, with fine bold buds; Zillah, Omar, and Ulrich Brunner are admirably represented. The last is an early variety, and was at its best a week ago; colour, carmine shaded violet, very effective as a decorative plant, as it appears to flower freely.

In the general collection of Japanese, Avalanche, Boule d'Or, Etoile de Lyon, Eynsford White, J. Délaux, Marsa, Minnie Palmer, Mrs. A. Hardy (showing colour), Mrs. Irving Clarke, Mrs. Thomson, Mrs. Wheeler, Mrs. F. Jameson, Ralph Brocklebank (improved), Sarah Owen, Stanstead Surprise, Stanstead White, and W. W. Coles, are coming on well, the last named carrying immense buds.

The Reflexed varieties are arranged by themselves, as are the Anemone-flowered, while the Pommpons and singles, which are in large bushes, are mixed. Some trained specimens are arranged at the right and left of the entrance mostly of pyramidal and globular form, Coquette de Castille, W. Holmes, Miss A. H. Bates, St. Michael, and Rosinante are the best.

In another large house, 100 feet long, are big bushes for cutting, besides a large number of plants of the October flowering type, such as the Madame Desgranges family, Madame la Comtesse Foucher de Careil, La Vierge, Mrs. Cullingford, and Roi des Précoces. Noticeable here are two new varieties, Martimas, a lovely shade of pink, and Arthur Crepey, a charming flower, somewhat like Mrs. Burrell in colour, but changing almost to white as the flower ages. It is evidently a seedling from Madame C. Desgranges, but of much better form.

Another house, 90 feet long, is filled with late sorts, Madame Pages, Boule de Neige, Eynsford White, Snowdrop, and Princess Teck, as whites; of the coloured varieties Admiral Symonds is a favourite yellow, and with Tokio, Julie Lagravère, Rubrum Perfectum, St. Michael, and Ville de Hyères, a good supply of flowers will be maintained till after Christmas.

Altogether the display is a gigantic one; indeed the floral pilgrim would have to travel far to find its equal, and then perhaps fail.—A VISITOR.

#### NEW CHRYSANTHEMUMS.

M. R. BAHUANT.—As a new incurved variety of French origin the Chrysanthemum named above attracted some attention last year, and several growers expressed an opinion that it would prove a really valuable



acquisition. Further experience this year has to some extent confirmed this view, but the chief defect seems to be its earliness. At the recent meeting of the National Chrysanthemum Society several exhibitors had good blooms of it, and if it is expected to be at its best in the middle of

a trifle too faithfully depicted in the wood engraving (fig. 71). This was prepared from one of the handsome blooms shown by Mr. Shoesmith at the meeting in question, and for which a first-class certificate was awarded. The colour is described as "carmine rose shaded cerise," it



FIG. 71.—CHRYSANthemUM M. R. BAHUANT.

October it would not be of much service for the ordinary shows during November. Fortunately we have seen plants that are likely to develop their blooms about the right time, so that it will stand a chance of being fairly tested. The florets are broad, and the blooms become of a great size, very solid, but somewhat wanting in refinement, and this is perhaps

is a soft, distinct shade, and the upper surface is of a much richer tint.

BOUQUET DE DAME.—A stand of six magnificent blooms of the white Japanese Bouquet de Dame was shown by Mr. Peter Blair, Trentham Gardens, and a first-class certificate was readily obtained.



The blooms were large, well formed, with broad slightly drooping florets, of great substance, and pure white. The solid white of this variety is very noticeable in contrast with others.

MRS. E. BECKETT.—This and the following variety were grown and shown by Mr. E. Beckett, Aldenham Park Gardens, Elstree, but we understand that they were raised by Mr. Norman Davis from seed he saved himself at Camberwell. The one named above is a Japanese with long twisting drooping white florets, forming a rather effective and distinct bloom (first-class certificate).

EDWIN BECKETT.—This also is a Japanese of an extremely deep rich golden yellow colour, with narrow tapering florets built up into a deep substantial nearly globular bloom. It appears likely to form a good exhibition variety (first-class certificate),

WHITE ETOILE DE LYON.—Mr. H. Cannell sends a bloom under the above designation. The outer florets were much injured in transit, crushed, and almost black, but the central uninjured part of the bloom more nearly approaches white than any we have seen, and may be regarded as the precursor of a pure white variety of the "great" favourite.

CHRYSANthemum MME. JEANNE GAYON.—Mr. Norman Davis sends us a head of this Chrysanthemum bearing twenty single or semi-double blooms, white, with a tinge of purple, and remarks:—"The Chrysanthemum sent is one of Délaux's named Mme. Jeanne Gayon. It is described as being as large as Avalanche and colour resembling James Salter, surpassing the most remarkable of the autumn varieties, &c., price 12 francs. As the flowers have not been disbudded it would be unfair to say what proportions it would obtain, but I fancy in this instance Nature would be preferred to Art."

#### CULTURAL NOTES ON CHRYSANthemUMS.

PROBABLY some of our celebrated growers will reply to the queries of "Y. B. A. Z." and my note can be consigned to the waste paper basket. Yet, as I have had something to do with the growing of Chrysanthemums, and have attended most of the principal exhibitions during the past few years, and have also visited some of the principal gardens where Chrysanthemums are made a speciality, I venture to give my experience.

It is not unusual to answer one question by asking another. Does Fair Maid of Guernsey produce flowers equal to what it used to do? A good bloom has not been produced here, although it has been well tried for successive seasons. If the crown buds are taken, and it generally shows early, numerous other buds are found clustered inside the one selected, making them useless for show purposes. If it will come good it must be had on later growths, yet not terminal. Belle Paule buds are small when they appear, and all growths should be rubbed off as soon as they can be removed with safety. This variety is the worst I know for starting to swell freely.

As I proceed the questions become more difficult, yet as everything has a cause expressions of opinion enable someone to find the "missing link." Had "Y. B. A. Z." named the varieties that show "a few florets then refuse to expand" it might have assisted in solving the problem. In the Japanese Mrs. Beale and Grandiflorum (a thing of the past) frequently do this. In the incurved section do any of the Teck family show that disposition? Doubtless the buds from the first breaks are most promising, but are the early anticipations always realised? I am of opinion that early bud selections of many of the varieties is a mistake; each individual variety must be known, and how far manipulation can be indulged in, for this is the secret of success in timing buds. Varieties that refuse to unfold their florets when they have made their first break and proceeded a foot on their second journey may have the points nipped out and the growths allowed to extend. Over-ripening of the wood or hardening of the buds is the cause of their not swelling freely, and if plants are treated as I have suggested buds will appear nine days or a fortnight later than these, will swell freely, and develop into large deep blooms with broader petals than will those buds taken a fortnight earlier, and which often require the warmest end of the house to induce them to unfold in time for showing.

When I saw the note by Mr. Taylor on Grape stands I thought how applicable it was to Chrysanthemums. All societies do not stipulate as to size; Leicester did not last year, and I believe I have seen large boards at other places. It is certainly desirable that all exhibitors should be placed on the same footing. Sometimes it simplifies judging. Occasionally competing stands of blooms are contrasted instead of each bloom being pointed, and as the one on the small stands cover the boards best a mistake in the awards may occur.

Lastly, Mr. Woodcock, speaking of varieties, advised topping. Mrs. J. Clark—was not Mrs. E. W. Clark meant? I find the former crown bud comes at the right time, while the latter bears out the decision I came to last year, that it is one of a few that must be assisted in its early stages.—SAMUEL BACKHOUSE, *Onslow Gardens, Shrewsbury.*

#### MANURING.

(Continued from page 327.)

ORGANIC matter to a certain extent must be present in all soils for the manufacture of nitrogenous substances needed by the crops. If pasture land the soil adds to its stores of nitrogen, and the gardener's love of turf is due to its containing nitrogenous elements in full quantity for present use and enough for subsequent manufacture; but

turf will not keep on yielding nitrogenous substances for ever, and it is not straining any point when we say that nitrogen cannot be made out of the best loam so as to serve any crop indefinitely. Pasture land will only add to its stores of nitrogen whilst it contains a sufficiency of potash and phosphoric acid. The everlasting use of stable manure on Vine borders fills the soil with an excess of acids, and the crops of Grapes shank at a tremendous rate. Vine borders, like pastures, only assimilate nitrogen when they contain a proper quantity of ash elements—potash, lime, and phosphoric acid. Poverty stricken Vines "jump" when treated with blood manure. Those that are sappy, long jointed in wood, and have an inherent tendency to lack colour and shank in their crops, are revolutionised by dressings of superphosphates. Lawns that will scarcely grow anything but moss will yield abundant verdure in Clover. Bird's-foot Trefoil (*Lotus corniculatus*) will grow on soil which through acidity will hardly support a blade of grass. These facts are the result of causes in the soil or plants. Which? Both! Perhaps, but that is no answer, for the object of chemistry is to explain the natural laws by which plants are governed, so that the gardener and farmer may apply them in their cultures.

To this phase of our subject we now address ourselves, and we shall only premise that the classes of plants with which the cultivator has to deal are:—1, Those which live on the nitrogen of the soil and the nitrogen of manures alone; and, 2, those which can turn to account not only the nitrogen of soils and manures, but also those of atmospheric air. These are the problems science has set itself to teach, and which practice has exemplified to be of uncommon importance. Professor Hellriegel's researches have proved with absolute certainty that the nitrogen of atmospheric air is made use of by certain plants, and assimilated by them, as already described in respect of Clover. Professor Wagner, also, by scientific investigations, has succeeded in solving some important questions relative the use of nitrogenous manures, which clearly define the principles on which they may be applied in manuring garden and field crops. These experiments prove that cereals, Potatoes and Tomatoes, Turnips, and all kinds of Cabbages or Brassicas (including Cress, Mustard, Radish, Seakale, Horseradish, as well as Broccoli and Cauliflowers), Lettuce, also Chicory, Salsafy and Scorzonera, Buckwheat and Rhubarb, are incapable of taking nitrogen from atmospheric air, but consume the nitrogen of the soil and manure, extracting the garden's or farm's store of nitrogen. Vines and all fruit trees are also nitrogen consumers. All these plants require nitrogenous manures to enable them to produce the greatest and best possible crop at the least expense.

Against these nitrogen-consuming plants the gardener and farmer has to set the nitrogen-increasing plants. These comprise Peas, Beans, Vetches, Clover, and all other leguminaceous plants, which take nitrogen from atmospheric air. All plants of that class do not ordinarily require nitrogenous manures, consequently do not diminish the soil's store of nitrogen, nor take from the gardener's or farmer's capital of manure, but augment the one and save the other. They, as explained under Clover, assimilate nitrogen from the atmosphere, and carry it in the form of roots and stubble into the soil. Some of course finds its way, in the shape of hay or fodder, into the stable or stall; but notwithstanding that one crop of these plants, say Clover, is taken off the ground, the soil is left richer in nitrogen by the roots and stubble than had a crop of cereals been taken with manure. This because the Clover is capable of extracting nitrogen from atmospheric air, and thus supplying this valuable substance to the soil gratis. Some parts of the hay crop, with an addition of other manurial elements, finds its way to the soil again, yet this seldom occurs to benefit the same soil in an ordinary system of rotation. Indeed, the agricultural interest demands something more speedy and substantial, therefore the farmer pens sheep on the second crop of Clover, consuming it with or without cake, the mutton is transported, whilst the soil has returned to it its equivalent in nitrogenous yielding substances, and it is in splendid condition for yielding the following year an abundant crop of Wheat. This saves labour, and the green crop eaten on is infinitely superior as manure to double the quantity of fodder eaten off the land, and requiring carting off and on to the land again. One half or more of all stable or farmyard manure is lost as regards its nitrogenous elements in the making. Thus the farmer reduces his manuring with nitrogen to a minimum by manuring the land for cereals with the nitrogen of the air, dispensing to a great extent with the nitrogen of manure dealers, and is able to invest in superphosphates, whereby weight is given to the grain of the Wheat crops.

Nitrogen extracted from the atmosphere enables the cultivator to expend more money on manures that nourish crops which will give the most profitable returns without having nitrogen supplied to them by the soil, and no plant of this class—namely, cereals, roots, and Potatoes, will produce a full yield if in want of nitrogenous nourishment. It is patent, however, that the agriculturist must secure much atmospheric nitrogen by growing much leguminous fodder, and keep many cattle, consuming as much as possible of the crops on the land, reserving no more of these crops for eating off the ground than is absolutely necessary for the winter feeding of stock, for it is easier and far more profitable to transport cattle than bulky crops off and manure on to the land. Growing fodder and feeding off the land is the way not to do it, yet some farmyard manure is an absolute necessity for the growth of Mangolds, Turnips, and Potatoes, but the more of the two former are consumed on the ground the more economical is the system of manuring, because much more nitrogenous manure is put into the soil at much less cost. Growing fodder and feeding cattle with it off the ground is one of the most



extravagant systems of manufacturing nitrogenous manures. Open yards are nitrogen wasters; covered sheds save much nitrogenous matter. One ton of the latter has fertilising value equal to 3 tons of the former. Farmers recognise these facts and limit cattle feeding to absolute necessity as regards doing so, with a view to the manufacture of open yard manure. They consume as much as the climate will allow of fodder on the ground, and they show their abhorrence of carting manure, and at the same time their appreciation of nitrogenous manures by producing them directly on the fields and eating the crops on the ground, or as green manure ploughing them into the soil. This is a very old-fashioned plan as regards Mustard and Rape, which, however, can produce no nitrogenous manure. When eaten on the ground they act in two ways. 1, The fodder is transformed into nitrogenous elements for the support of the succeeding crop; 2, The deep rooting of these plants bring up fresh supplies of potash and phosphoric acid. Therefore the Mustard and Rape when eaten on has a twofold effect—namely, manures the soil with nitrogenous and potassic and phosphoric elements. Ploughing them in as green manures yields very little nitrogen, but provides potash and phosphoric acid. Without these elements in sufficient quantity it is ineffective to manure nitrogen-requiring plants as cereals, Potatoes, and Turnips with nitrates and ammoniacal salts, for a soil deficient in phosphoric acid and potash will make a poor display in the crops by application of nitrate of soda. By ploughing in Mustard or Rape the ground is put in a condition to make the most of nitrate of soda.

On the other hand, Clover, &c., sown into the green cereal crop develop into green manure plants amid the cereal stubble, and these take nitrogen from the atmosphere, and ploughed into the soil in late autumn or early spring decompose, and supply nutriment for a succeeding crop of Potatoes or Turnips, also cereals. This is better than a useless crop of Grasses and weeds allowed to encumber the preceding cereal crop, for they, like Mustard and Rape, have little nitrogenous value, and, unlike them, are too void of nutrition to be eaten by animals, therefore not transformable into nitrogenous manure. But the cereal crop suffers little by Clover sown into it, and animals eat it into the quick, and they put on flesh by the process, whilst they dress the ground with nitrogenous manure. More than that, the ground is kept in cleaner condition. Thus, by employing plants that assimilate nitrogen the cereal crop is not impoverished, but the succeeding crop benefits to the extent of the nitrogen taken from the atmosphere and put into the soil either as green manure but preferably as nitrogenous manure, resultant of eating on by sheep.

Sowing winter Vetches, or Vetches and Peas after harvest, merely grubbing up the stubble and sowing with as little delay as possible secures a good plant before winter, and by ploughing this into the land in spring the future crop of Turnips or Potatoes receive a good supply of nutriment by the decomposition of the Vetches and Peas. That is one way and good, but there is another and better—namely, to pen sheep on the land, give them the bulk of the Tares as fodder, and let them eat the rest on the ground so as to manure the whole ground evenly, affording them a daily supply of cake or Mangolds, and the ground is in capable heart as regards nitrogenous substances for affording nutriment to a crop of Turnips. There is yet another plan, that is, to take the Vetches off the ground and rob the land for the sake of cash, which is a sheer waste of nitrogen, inasmuch as its equivalent in manure is not returned to the soil. Still the Vetch stubble and roots has enriched the soil to the extent of the nitrogen, those parts have implanted in them by that part extracting it from the atmosphere, and it is in the roots and stubble of Vetches and all leguminaceous plants that nitrogen extracted from the atmosphere is chiefly stored.

These are some of the lessons we have gleaned from a close observation of agricultural practice. The fields are open to inspection by every one who cares to look over the hedges separating them from our highways and lanes, and from the crops and the methods of culture pursued all may draw lessons alike interesting, instructive, and useful, especially if the observer has made himself acquainted with the rudiments of agricultural chemistry, which will better enable him to acquire knowledge and understand the crops to which everyone owes existence.

To the gardener these remarks may seem of little importance; but we feel that a majority will agree with us that it is of the greatest importance that the plants we cultivate on empirical lines should be understood from a scientific standpoint. For many years we grew Peas on a south border for early supplies, and followed them with Brassicas that came off the ground in time for sowing with Peas in autumn or spring. This rotation of two dissimilar crops in a season on the same ground succeeded well enough with a dressing of manure annually; but we were then unacquainted with the facts that Science has since taught us that Peas are nitrogen gatherers, and Brassicas nitrogen consumers. Since being made acquainted with the principles of plant nutrition we have sought for plants in other orders that were or appeared nitrogen gatherers, and we are obliged to admit with very indifferent results. The only ones upon which we have been able to fix with any degree of certainty are Cucumbers and Melons in Cucurbitaceæ, and Gardenias in Rubiaceæ. These—Cucumbers, Melons, and Gardenias—are liable to a sickness corresponding to, if not identical with, Clover sickness—namely, attacks of eelworm, *Tylenchus (Vibrio) devastatrix*. The roots of these plants, under certain conditions of soil ingredients, form nitrogenous nodules; but these have no connection with the minute organisms which, as shown by Mr. Warrington of the Rothamsted laboratory, transform ammonia into available plant food—namely, one organism by

oxidation converting ammonia in the soil into nitrites, and the other by a similar process changes nitrites to nitrates, the latter containing a larger proportion of oxygen than the former. The root nodules are simply due, as far as we can make out, to the plants gathering nitrogen from the atmosphere and assimilating it in the plant it becomes stored by some unexplained process in the root nodules. We have noticed similar nodules on sickly Ixoras, also in *Burchellia capensis*; and not infrequently these plants become gouty in the stem next the soil or collar, and they fall a prey to eelworm. Some other plants have a tendency to form nitrogenous nodules on the roots when grown in peat which they do not exhibit when grown in loam, especially where lime prevails to the extent of 5 to 10 per cent.

There is another point—namely, leguminaceous plants seem to assimilate most atmospheric nitrogen where the soil is calcareous, and least where it is of a vegetable nature. If we lime vegetable soils, or those rich in humus, Peas thrive amazingly, by which we assume the minute organisms are called into activity, and converting the lime into nitrate, the Peas are supplied with that substance.

But the question arises, Do Vines, Peaches, and other fruit trees grown under glass extract nitrogen from atmospheric air? We believe the root nodule test to be infallible, and they do occasionally occur on the roots of Vines and fruit trees grown on Plum stocks. We have no desire to see them on any trees under our care, for the simple reason that they are a certain indication of indifferent health.

We have used liquid manure during many years for sprinkling the floors and other available surfaces of plant and fruit houses, and always considered there was advantage in the plan. We saw more chlorophyll in the leaves, the Grapes assumed a deeper purple or black and richer amber, and the Peaches and other fruits grew larger and brighter in colour, and we believed it worth while to practise it because it imparted health to the plants and fruit trees, and enhanced, as we considered, the quantity and quality of their crops. Alas! we did not then know the difference between atmospheric nitrogen and atmospheric ammonia. The latter obtains in the air to the extent of one part in one million, but atmospheric nitrogen forms 79.19 volumes to 20.81 volumes of oxygen, or by weight atmospheric air consists of 23.01 parts of oxygen to 76.99 of nitrogen, and these exist—not as a chemical compound, but as a mechanical mixture. Where, then, is the ammonia vapour doctrine? The Romans believed in it 2000 years ago, and we still practise it, because experience has proved that plants never thrive so well as where gases are being given out by decomposing matter in presence of a due supply of atmospheric air. What favours healthy growth in plants requiring artificial heat so well as that generated by sweet fermenting materials? Some ammonia is being constantly evaporated, and unless excessively present in the atmosphere does not injure, but rather contributes to health and growth, and certainly is inimical to red spider and other insect pests. Of its properties as a source of nitrogen to plants we know absolutely nothing, yet it cannot supply nitrogen in anything like the quantity essential for the swelling and perfecting of profitable crops of fruit, and unless fruit trees and all plants are supplied with potash and phosphoric acid they will make very poor returns for a bounteous supply of nitrogenous manures, with the nitrogen of the air thrown into the same scale.—G. ABBEY.



MR. PRINCE AT LONGWORTH.

THE fine hot weather of the second week in September found me in Oxfordshire; and the warm sun suggesting Tea Roses, and Oxford Mr. Prince, I determined on an expedition to hunt him up, though of course it was too late to see the flowers in proper form. All I knew of his whereabouts was that it was necessary to drive from Oxford, and accordingly I went by an early train one pleasant morning to that ancient seat of learning in the company of a young gentleman of the University, who strongly urged me, if any riding or driving was to be done, to secure the services of a certain quadruped named Brown Sam. The narrated exploits of that noble animal, however, caused me to fight shy of him, and after some inquiries I was fortunate enough to secure a capital little fast-trotting pony and trap for a moderate sum for the day from the King's Arms. I almost regretted afterwards, as we got on so well, that I had not tried to visit Mr. Mattock at Headington the same day. Ten miles, I was told, was the distance to Mr. Prince's grounds at Longworth, and as I rattled along over the splendid granite roads, I wondered over two things: first, why North Berks and also North Oxfordshire are always so much later with their harvest than the midland or eastern counties, and whether it is because the farmers in those parts have a queer habit of sending one man, or a man and a boy, armed with reaphooks, into 12 or 15 acres of Barley; and secondly, how tremendously handicapped a man must be in showing Roses all over England when he is ten miles from a first-class station, and seven from the nearest small one. My little steed made light of the distance, and though I stopped for a while at Kingston Bagpuse, the next village to Longworth, to see my old friend the huntsman of the old Berks, and to admire the horses and hounds about to begin the campaign at five next



morning, I got to Longworth in capital time, and was most hospitably and heartily received by Mr. Prince and his son.

We commenced at once to look at the Roses, and were soon among acres of seedling Briars and tremendously long rows of dwarf Teas. My first impulse was to try and get an idea of the soil by the feeble aid of an umbrella. I need hardly say that after the baking the earth had lately had I did not obtain a very deep insight into its nature by this means, even when supplemented by Mr. Prince's walking stick, but it seemed to be a deep rich loam (very deep he told me), with a little of the reddish tint common in those parts and further north. The rent was very high I was informed, much higher than I should have imagined possible for mere arable land so far from a station. The Roses were of course showing a wealth of bloom; but, alas! I was too late to see them "in character," so much so that sometimes it puzzled all three of us to name a plant. But what a quantity of bloom! And how they "waste their sweetness on the desert air!" for, owing to his isolated position, Mr. Prince told me he was able to do very little indeed in the way of selling blooms, though, as to plants, he had quite a connection even in Spain. Ah! there is something like sunshine there. I should like to see some of his plants in Spain. They could not be less appreciated than they seemed to be at Longworth. There were lovely Roses in cart-loads. We picked a choice specimen, wore it or carried it for a minute or two, and then—really terrible!—threw it down to make room for another. A very beautiful bloom of Madame Chauvry was the first thus to attract attention. This is a strong growing, I suppose a Dijon, Tea, and it seems to me one of the most attractive of the race in colour, recalling the bright tints of some of the favourite buttonhole varieties. Monsieur Furtado, I found, making much better and bigger plants than I expected. I forget whether I have ever had it; at all events I have been without it for some time. It is neat, but not big enough, and I was surprised to hear it was still in demand. A whole row of Jean Ducher in full bloom was of simple pale yellow, hardly a sign of pink anywhere, even on the overblown flowers. I have never seen it so lightly coloured, and should not have recognised it; but perhaps the bright hot weather of the previous days and the buds not being thinned had something to do with it. Marquise de Vivens is a distinct sort, which was new to me. The "bright carmine" is a new colour in Teas, and it seemed likely to be pretty in the bud state, but of not sufficiently good quality for exhibition. Francisca Kruger was beautiful as usual. In the summer for show and in the autumn for lovely half-opened buds this is a very favourite Rose with me. Madame de Watteville was making much better growth as a dwarf than I can get from it. I wanted to see Madame Pierre Guillot, but forgot to ask for it. Mrs. James Wilson was doing well, as it does with me. A friend complains that he cannot distinguish it from Marie Van Houtte, but I find it quite distinct in colour and shape, and remarkably so in habit. Presently I was shown a new Tea Rose, of globular shape and (I am a shocking bad hand at describing colour) generally whitish with a rose centre. It was of course impossible to judge at that time of its capabilities, but I was much interested because Mr. Prince told me he was going to name it "Miss Watson;" and I am sure all rosarians will agree that graceful recognitions like this, and the parallel case of Mr. George Paul calling a good new Rose after his foreman, Mr. Gater, are pleasing and acceptable to all lovers of Roses.

I need hardly say that Souvenir de S. A. Prince was very much in evidence and covered with flowers. Few, if any, I think, will have found any deception in the favourable impression this sport from Souvenir d'un Ami created at first. I have not seen Mr. W. Paul's The Queen, but understand that it is admitted to be practically identical. A few days ago, in the last week of September, I was searching for white Tea Roses for a wedding and a funeral, and all the largest and finest blooms I could find came from this variety. It seems to me to occupy the same position to Souvenir d'un Ami as The Bride does to Catherine Mermet—viz., as an improvement if anything upon the original. H.P. Roses are grown by Mr. Prince in considerable quantity, and principally on the seedling Briar. They seemed good plants, but were naturally showing but few blooms, and those even more out of character and colour than the Tea Roses.

After lunch we went to see the seedling stocks, visiting first a considerable area of fine strong plants which had been budded, and then the newly raised ones. Here I was astonished, for I understood that the seed in this field had only been sown a few months, yet the plants were apparently big enough to bud; at all events I have budded smaller ones. The seed is sown in rows, and the plants are then chopped out and singled like Turnips. It was a splendid crop, and wonderfully uniform in size, strength, and health; there was a general sprinkling of mildew both here and on the budded stocks. Seedlings always seem to me to be more liable to this than cuttings, but not enough to do any harm. We pulled a plant or two, and the roots had gone down capitally.

Soon afterwards we came to the standard Teas. These were very fine, the leaves looking particularly healthy, and I confess I liked their appearance better than the dwarfs. But when we came to a low wall, there were some really famous plants of Teas to be seen. First, and above all, I was struck with Princess of Wales. In growth and size of bloom Mr. Prince had better specimens of this variety, both on the wall and in the open, than any I have seen elsewhere. He had then quite as fine examples of it on the wall as any I have had this year, and the growth was much stouter and stronger than with me. I kept a good look out for Comtesse de Nadaillac, for it is well known that Mr. Prince shows this Rose with a deeper yellow shade than anyone else

can manage. I had heard theories mooted of their being budded on Banksia, and other strange rumours, but I was assured that they were all unfounded; and when I saw a shoot of it against the wall—well, quite long enough and thick enough to form a fashionable walking-cane—it seemed to me merely the case that the stock, the soil, and the treatment suited the variety uncommonly well. The seedling stock appeared to answer particularly well against the wall. Mr. Prince keeps but few cut-backs, but I saw some on the seedling stock, and very strong and healthy they looked. The plants of Marie Van Houtte were veritable bushes. I was surprised to see the union between stock and scion well above the ground, and was told that the distance of an inch was recommended. This, as Mr. Prince's own advice, is well worth bearing in mind.

On asking how they managed to cut and stage for exhibition so far from a station, it was strange to hear that all blooms for show are cut by 7 A.M. on the day preceding, and placed in water in a large cool barn. This may do very well for the Teas, which sometimes in wet weather are even the better for keeping, but seems hard upon the less enduring H.P.'s.

I am sadly afraid that in my enthusiasm and anxiety not to miss anything that was to be seen, I rather tired my kind host, who, as his friends know, is anything but strong since his accident, but I have to thank him for a most pleasant and interesting day, and also for a great box of splendid Roses, which excited much admiration at the house where I was staying.—W. R. RAILLEM.

### THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—ANNUAL DINNER.

THE fifth anniversary dinner of the above-named excellent Society was held in the Cannon Street Hotel on Thursday, October 15th last, when there was a large attendance of members and friends to support the Chairman, Harry J. Veitch, Esq., who had been called suddenly to undertake that office in consequence of the unavoidable absence of G. A. Dickson, Esq., of Chester, the appointed Chairman. It is needless to say that Mr. Veitch performed the task in an admirable manner, and entered as thoroughly into the spirit of this meeting as he invariably does at all such gatherings.

The usual loyal toasts having been honoured, the Chairman proposed "The United Horticultural Benefit and Provident Society," and in his opening remarks referred to the strange fatality that had attended the Chairmen at this dinner. Last year Mr. E. R. Cutler occupied the chair, but he had since passed away, as also had Mr. Cavendish, who was then named as the Chairman for 1891. Mr. Dickson was unable to come owing to the serious illness of his mother, and several other gentlemen who had been approached were deterred by similar causes. Having been called to take the post at so short a notice he (Mr. Veitch) hoped they would excuse all shortcomings, but he was always glad to help in such matters, and would, therefore, willingly do his best for them. He then briefly traced the progress of the Society from its foundation in 1865, and observed that for some years the Society was engaged in doing good work very quietly. In 1885, however, it was felt desirable to make the objects and scope of the Society more widely known, and a substantial help was rendered in this direction through the Horticultural Press. Since then it had made great progress. In 1883 there were only 100 members, in 1887 they had increased to 213 with twelve honorary members, while in 1891 the total is 410 with fifty-three honorary members, and during the past year sixty-nine benefit members have been elected, making the largest total in one year. It may be asked, What are the objects and advantages of the Society? and this question could be answered by saying, That it is intended to provide assistance to gardeners in time of sickness and old age, that it is absolutely safe, is governed by very comprehensive rules, and offers many advantages over all other general benefit societies. Members could join between the ages of eighteen and thirty-five, and become entitled to full benefits after twelve months. The payments are in two series—9d. per week to ensure 16s. per week in illness, and 6d. per week to ensure 10s. 6d. in the same way, full benefit payments being made for twenty-six weeks, and after that a reduced rate for an equal period, and then urgent cases may be transferred to the benevolent fund. In addition to this 3s. and 2s. per year is paid to the benevolent fund and also a small annual payment to the management fund. Mr. Veitch then referred briefly to the amounts standing to the credit of members, and which at their decease had been paid to their widows. He also referred to the low rate of sickness, which compared most favourably with other societies, and cited from the letter of an actuary to this effect. He commented favourably upon the general management and the small expenses incurred, and concluded by urging all gardeners to give their cordial support to so excellent an institution, which would become still more useful as the numbers increased. Several donations were announced, including £10 from Mr. G. A. Dickson.

Mr. Nathan Cole responded briefly on behalf of the Society, and Mr. Hudson then proposed the "Honorary and Life Members and Visitors," and pointed out the good service the honorary members rendered the Society, and stated he was glad to find they had the sympathy and support of so many influential friends, but he hoped they would secure the aid of many more. In ten years their members had increased from seven to fifty-three, and they could still advance. Mr. W. Furze and Mr. Jos. Cheal responded, both commending the Society as worthy of all support, and wishing it every success.



Mr. N. N. Sherwood had the next toast—namely, "The Health of the Chairman," which he did in most complimentary terms, very justly observing that Mr. Veitch was always willing to do his utmost for gardeners and gardening. He mentioned the convalescent fund, which he had been the means of starting, and since that £15 had been subscribed. Having invited honorary members to contribute to this special fund, he stated his intention to make his three children annual subscribers of a guinea for that object. Mr. Veitch, in reply, thanked the members heartily for their reception, and said he would be pleased to contribute £25 to the convalescent fund. Mr. Sherwood also proposed the "Officers of the Society," coupled with the names of Mr. Jas. Wheeler and Mr. Collins. Mr. R. Dean proposed "Kindred Societies," for which Mr. G. J. Ingram, Secretary of the Gardeners' Royal Benevolent Exhibition, responded in an excellent exhaustive speech, reviewing the history and progress of the Institution since its foundation; and Mr. J. Laing proposed "The Horticultural Press," which was responded to by Mr. George Gordon. Votes of thanks were also accorded to the donors of plants and flowers—Messrs. J. Laing & Son, B. S. Williams & Son, H. Cannell and Sons; for the fruit to Messrs. Thomson & Sons of Clovenfords, with many others. It should be added that Mr. J. R. Chard, of Stoke Newington, had charge of the table decorations, and employed his artistic arches with excellent effect.

### THE MANCHESTER FRUIT SHOW.

A SPECIAL Exhibition of hardy and other fruits was opened at the Town Hall, Manchester, on October 20th. The fruit generally was exceptionally fine, affording satisfactory evidence of high culture. It was an Exhibition of a very representative character, especially the fruit in the large collections. Of those not for competition was a fine display of 250 dishes of Apples and Pears from Her Majesty the Queen's gardens at Frogmore. General excellence was a characteristic of this display. Among the finest fruits were of Pears Chaumontel, Doyenné du Comice, Beurré Diel, Vicar of Winkfield, Marie Louise, very fine; Flemish Beauty, Beurré Bachelier, and Pitmaston Duchess; and of Apples Mère de Ménage, Striped Beefing, Sandringham, Winter Peach, Dr. Harvey, quite model fruit; Alfriston, very fine indeed; Bismarek, Golden Noble, Frogmore Prolific, a lovely dish of Brown's Codlin of a rich golden yellow, and an attractive dish of the pretty little Fairy Apple.

Messrs. Veitch came next with sixty-six dishes of Pears, and 146 dishes of Apples. The fruit in this collection was really magnificent; so fine were all the dishes that it was not an easy matter to make a selection. This fruit was from trees, pyramids, ready for sale this season. The best Apples were Seaton House, very free bearing; Jefferson, a lovely striped dessert Apple, very large; King of Pippins; Alexander, very fine; Transparent de Courcelles; Benoni, a charming Italian dessert Apple; Barnack Beauty, and King Harry.

In the open class Messrs. G. Bunyard & Co., Maidstone, were first with eighty dishes of Apples, kitchen and dessert kinds. The whole of this fruit was very fine, not an inferior dish in it. The sorts were:—Lord Derby, Dutch Mignonne, Small's Admirable, Lord Grosvenor, The Queen, very fine; Golden Spire, Annie Elizabeth, Jolly Beggar, Rosemary Russet, Potts' Seedling, Hoary Morning, Councillor, Roundway Magnum Bonum, Calville Rouge Précoce, King of the Pippins, Melon Apple, Duchess of Oldenburg, Bedfordshire Foundling, Sandringham, very fine; Northern Dumpling, King of Tomkins County, Ecklinville, Schoolmaster, Swedish Reinette, Brownlee's Russet, Belle Pontoise, Cox's Pomona, Kentish Fillbasket, Lord Derby, Twenty Ounce, Alexander, Golden Noble, Wealthy, Farmer's Seedling, Calville Rouge, Manks Codlin, Gold Medal, Mère de Ménage, Peasgood's Nonesuch, Gloria Mundi, Stirling Castle, Blenheim Pippin, Baumann's Reinette, Golden Reinette, Egremont Russet, Castle Major, Washington, Stone's Apple, Bismarek, Alfriston, Lane's Prince Albert, Tower of Glamis, Gascoigne's Seedling, Seaton House, Old Nonsuch, High Canons, Claygate Pearmain, Cellini, Grenadier, Warner's King, Reinette de Canada, Queen Caroline, Cornish Aromatic, Evagil, Mother, Royal Russet, Beitigheimer, Beauty of Kent, Lady Henniker, New Hawthornden, Graham's Royal Jubilee, Brabant Bellefleur, Bramley's Seedling, Ribston Pippin, Worcester Pearmain, Cox's Orange Pippin, Hormead Pearmain, Tyler's Kernel, and Waltham Abbey Seedling. Mr. John Watkins, Withington, Hereford, was second, and Messrs. J. Cheal & Son, Crawley, Sussex, were third.

For the best fifty dishes of Pears, Mr. John Watkins was first with a well-balanced collection of fair sized fruits; the Earl of Harrington, Elvaston Castle (Mr. J. H. Goodwin, gardener), was second; and Messrs. Bunyard & Co. third, with some fine fruit.

For thirty-six dishes of Apples, kitchen and dessert, Messrs. Rothschild, Gunnersbury Park (Mr. G. Reynolds, gardener), were first with excellent fruit, the Earl of Harrington being second, and C. Lee Campbell, Esq., Glewston Court (Mr. S. T. Wright, gardener), third. In this class an extra prize was awarded to Sir E. G. Loder, Bart., Leonardslee.

For eighteen dishes of Apples C. Lee Campbell, Esq., was first, Mrs. Evans, Moreton Court, Hereford, second, and Mr. Joseph Such, Mount Pleasant, Davenham, third. For twelve dishes of Pears Sir E. G. Loder, Bart., was first with an excellent display, the second prize going to H. St. Vincent, Esq., Westbury-on-Trym, and the third to C. Lee Campbell, Esq.

The Earl of Durham, Lambton Castle (gardener, Mr. J. Hunter), was an excellent first for twenty-six dishes of Apples and Pears grown under glass. This collection was remarkable, as showing what can be done in

the north by the aid of glass. The second prize going to Sir J. W. Pease, Bart., Hutton Hall, Guisborough (Mr. J. McIndoe, gardener), and third prize to Samuel Barlow, Esq., Llandudno (Mr. J. Hilton, gardener). Messrs. J. Cheal & Sons were first for a collection of eighty dishes of Apples and Pears grown under glass. This collection contained many dishes of fine fruit. For six dishes of Pears A. Smith Barry, Esq., Monbury Hall, was first; Mrs. Grundy, Westleigh, being second, and James Watts, Esq., Abney Hall, third.

The Cheshire fruit was really very good having regard to climate, and prizes were taken by C. Sherwin, Esq., Ashbury Hall, Allington; James Watts, Esq., Abney Hall; and Mrs. Grundy in the order named. For Apples grown within twenty miles of Manchester A. Smith Barry, Esq., was first; R. P. Gill, Esq., second; and Mrs. Grundy third.

The display of Grapes was a fine one, some Muscat of Alexandria in a first prize collection of ten bunches being beautifully finished. This prize went to the Earl of Harrington; the other varieties being Gros Colman, Alicante, Alnwick Seedling, and Muscat Hamburg. The second prize went to Messrs. Rothschild, Gunnersbury Park, for a collection showing great cultural skill. These were large bunches of Trebbiano and other good bunches of Alicante, Chasselas Napoleon, Gros Maroc, Black Hamburg, and Muscat of Alexandria. For three bunches of black Grapes C. Lee Campbell, Esq., was a good first with grand bunches of Alicante; the Earl of Carnarvon (Mr. J. Read, gardener) being second; and Sir J. W. Pease third with very fine Gros Colman, rather deficient in colour.

A collection of six dishes of Tomatoes, for which J. F. Campbell, Esq., Woodseat, Utttoxeter, was first (Mr. J. Hollingworth, gardener), had grand fruits of Elvaston Castle, dark red; and Hackwood Park, equally fine. Some clusters of Colchester Black Bullace, exhibited by Mr. A. J. Harwood of Colchester, were worthy of notice. They were dense clusters of fine fruit, having the appearance of Cluster Damson.



### HARDY FRUIT GARDEN.

**ROOT-PRUNING.**—The present is the best time for this operation before vegetation becomes inactive, so that fresh roots may be formed previous to winterly weather setting in, although it may be carried out any time from now until the period when the buds burst again in the spring if the weather is suitable. Root-pruning may easily be carried to excess. It is at best a necessary evil, and should only be resorted to when other means of inducing fruitfulness have failed. Where the top growth can be allowed to extend, and the wood is kept well exposed to sun and air by judicious thinning, a heavy crop of fruit will eventually come, which will reduce the vigour of the tree to reasonable limits, and no further inconvenience will be experienced. The trees will form abundance of fruit spurs and bear well in all favourable seasons, but in the case of fruit trees which persist in growing with excessive vigour and do not bear fruit root-pruning is the only way out of the difficulty. Trees which, from surrounding circumstances, have to be kept to a certain size and are annually cut back to this limit, are very apt to grow vigorously year after year at the expense of fruitfulness. Again, the roots of fruit trees find their way at times into bad subsoils and the fruit becomes poor in consequence; very often the growth of the tree is hindered by the inactivity of the roots from this cause, the leaves become yellow and thin, the flowers are imperfect, and if allowed to continue in this state the tree eventually cankers and dies. Timely lifting and root-pruning will remedy this also, and with good attention in other ways will restore vigour to the trees.

This operation requires considerable judgment and experience. The operator should be well acquainted with the growth and character of each individual tree, and must have a good idea of the balance of power so to speak, in order that he may judge accurately how much root is required to carry a given amount of top with a heavy crop of fruit. This will vary with the character of the soil to a certain extent. A tree in a light and dry soil will need more roots to supply the necessary amount of sap than it would if it were growing where moisture was more easily obtained. In all cases it should be borne in mind that fibrous roots mean fruitful branches, stout fleshy roots mean timber, therefore in removing or root-pruning fruit trees all fibrous roots should be saved.

Commence operations in all cases by digging a trench with a spade some distance from the stem of the tree. This distance should vary with the age and size of the tree, for a young pyramid Apple 10 feet high leaves 3 to 4 feet of ball all round the stem when digging the trench. After this the soil must be worked out carefully from among the roots with steel forks, preserving all the fibrous roots by tying them back as the work proceeds, and covering them from the air as soon as possible, so that they do not become dry and perish. A little moist straw litter or some old sacks are very useful for this purpose. It may not be advisable to do the whole of the ball of roots in one season, and in this case the trench should only be carried half way round. With trees that have been undisturbed for a number of years it is best to spread the work over two seasons, or a serious check will be given to the tree,



which instead of inducing fruitfulness will reduce its strength below fruiting point for two or three seasons. The roots are more easily reached where the whole tree is lifted, but in any case all those which go down into the subsoil must be cut off, taking them back to the fibrous roots, and clean cut all wounds with a sharp knife to induce the formation of fresh fibres as soon as possible. Place some fresh sweet soil over the roots when filling in again, as this also induces fresh fibres, and these will plump up the buds for next season if the operation is completed soon enough before the trees rest for the winter. In laying the roots back again in the hole keep their points from dipping downwards, and distribute them as evenly as possible, both horizontally and vertically. As soon as the hole is filled secure the tree against rocking by the wind if it has been lifted entirely; the best way to ensure this is to fasten some old sacking, or a piece of gutta percha hose split open, around the stem of the tree a little more than half way up, and stretch four wires from this to short stumps in the ground at equal distances apart. The ground over the roots should then have a mulching of straw litter to protect the roots in some measure from frost, and all is complete. Under no circumstances let any manure be incorporated with the soil for fruit trees that have been root-pruned or replanted. All feeding must take place from the surface, which will keep the soil sweet, and induce the roots to come nearer to the top instead of going downwards into the subsoil.

#### FRUIT FORCING.

**VINES.**—*Earliest Vines in Pots.*—Some Grape lovers do not appreciate the thick-skinned varieties, and desire thin-skinned Grapes at all times. In that case it is preferable to take the early supply from Vines in pots than to start the permanently planted Vines at a very early period. Vines in pots produce fruit little inferior to that borne by others planted out, and often better than is produced by those having the roots in outside borders. Success in early forcing is more certain where there is convenience for affording bottom heat, the canes being sufficiently strong, thoroughly ripened, and duly rested. The materials for affording bottom heat—that is, tree leaves and stable litter, should be in course of preparation. The heat to begin with must not exceed 65° about the pots, augmenting it by bringing up the fermenting materials to the level of the pots by degrees, so as to raise the temperature to 70° or 75° when the Vines are in leaf. We advise the pots to be stood on pillars of loose bricks. Let the canes be suspended over the fermenting materials in a horizontal position to induce the buds to break evenly. Sprinkle the canes three times a day, and damp every part of the house at the same time in bright weather. In order to induce regularity of starting, a somewhat higher temperature is necessary at this period than later in the season, 50° to 55° at night, and 60° to 65° by day is not too high to begin with. The Vines to have fruit ripe in April must not be started early in November. Vines in pots not intended for early forcing should be placed under cover, an open shed with a north aspect being suitable, and the pots protected with hay or straw. If placed in cool houses the pots must be protected against frost in severe weather, for the Vines may be injured or destroyed by the soil becoming frozen.

*Earliest Forced Planted-out Vines.*—Those for affording fruit in April must be started at the beginning of November. Have the inside border thoroughly soaked with water at a temperature of 90°, and in the case of weakly Vines a soaking of tepid liquid manure is beneficial, enriching the soil, and conducing a good break by the increased food supply. If the border or floor of the house is covered with leaves and litter in a state of fermentation, occasionally turning the material and adding fresh, the moisture and warmth, also the ammonia-charged atmosphere, are very beneficial to the Vines, and make a considerable difference in the fuel used. The outside border must have a covering of leaves, litter, or fern sloping from the house outwards, and be covered with shutters, tarpaulin, or thatch, so as to throw off the rain and snow. Fermenting material is not indispensable for placing on outside borders, but the warmth is a great aid in keeping the roots active and near the surface. Outside borders, however, are great mistakes for Vines that are forced early year after year.

*Vines for Starting in December.*—Prepare the house for starting, the Vines being pruned when the leaves have fallen, as it contributes to early and complete rest. In pruning two buds are mostly sufficient to leave for affording compact bunches of Grapes. Longer pruning may be practised when the Vines are wanted to give fewer and larger bunches, for it does not answer to allow as many large bunches on a Vine as of medium sized. Large bunches are, as a rule, loose, irregular in size of berry, and do not finish satisfactorily. Medium sized bunches are more regular in form and size of berry, and finish well. If the eyes at the base of the shoots are not plump, three eyes may be left, but this necessitates frequent renewal of the spurs. The Vines should be stripped of loose bark, in fact all that can be removed without stripping them to the live bark, and be washed with tepid softsoap solution—2 ozs. softsoap to a gallon of water. This is all that is necessary where the Vines are free from insects, and where there has been no scale or mealy bug, but infestation by red spider, a solution of softsoap, 4 ozs. to the gallon of water, is strong enough and an effectual remedy. If, however these have any mealy bug or scale a dressing of insecticide must follow, repeating it before the Vines are started. The woodwork must be thoroughly cleansed, if necessary painted, and the walls lime-washed. Remove the surface soil down to the roots and supply fresh lumpy loam with a sprinkling of strained bonemeal and wood ashes intermixed—about a half-pint of bonemeal and a quart of dry wood ashes to each bushel of loam. Though a somewhat dry condition of the

roots is desirable the border must not be allowed to become parched and cracked, affording water if necessary, but not saturating the soil to the extent of making it sodden. Keep the house cool, admitting air freely except when frost prevails. If the house is occupied with plants employ fire heat only to exclude frost.

*Houses of Ripe Grapes.*—A temperature of about 50° artificially is most suitable, losing no opportunity of admitting air when the days are fine, turning on the heat in the morning so as to cause a gentle warmth in the pipes, and so expel damp, turning off the heat at mid-day, or soon after, so as to allow the pipes to cool, and the temperature at night not to be kept above 50°, even less on cold nights; but a slight warmth in the pipes will prevent the deposition of moisture on the berries and prevent "spot," inasmuch as the moisture is condensed on the glass instead of the Grapes. A low night temperature causes the moisture present in the air to be rapidly condensed on the Grapes in the early part of a fine day, when the heat is not turned on early and air admitted, the sun heating the atmosphere much quicker than the Grapes. This must not be overlooked; and during the prevalence of dull weather it will be necessary to keep a gentle warmth in the pipes, the ventilators closed, yet there will be a circulation of air, causing the moisture to settle on the glass, thereby preserving the Grapes from damp.

*Vines Ripening the Wood.*—Vines not yet firm in the wood, the foliage quite green, and the wood not brown, should have the laterals closely pinched, bringing them down by degrees to the principal buds, which will have a tendency to promote rest by admitting more light, especially if air is admitted freely at night, the house being kept rather warm, but not close by day, as that would have a tendency to induce growth. When growth in the laterals is checked the shoots may be shortened to a few leaves above the pruning buds. This will assist the basal buds to plump and the wood to ripen, a gentle warmth being kept in the pipes and air freely admitted.

**PINES.**—Young plants must be afforded liberal ventilation whenever the weather is favourable, avoiding too much moisture in the houses or pits, as over-damping, keeping the atmosphere constantly saturated, is more injurious than beneficial at this time of year. Examine the plants once a week for water, supplying such as require it, for dryness at the roots stunts the growth, and is very pernicious, as the plants seldom, if ever, make free growth afterwards.

Fruiting plants should have a night temperature of 70°, 65° in cold weather, 75° by day, rising to 85° from sun heat, losing no opportunity of closing at 85°, and affording genial surroundings by damping available surfaces. Retain one sucker only to each plant, removing all others. Any suckers appearing on successional plants before the fruit is visible should be removed, except an increase of stock is urgent, when one or more may remain, but it is not a good practice, as the fruit is more or less prejudiced by the suckers.

New beds are usually prepared at this time of year for the reception of young plants. Tan is unquestionably the best material, its heat more regular, and retained longer than any other. Beds formed of it should not be made firm but put together lightly. Oak or Beech leaves are good for furnishing bottom heat over a lengthened period, and a good substitute for tan. Collect the leaves as dry as possible. In forming beds they should be firmly pressed, so that they may not sink too much, and also to regulate the heat; preventing it becomes too violent and soon expended instead of affording a regular warmth over a lengthened period.

**CUCUMBERS.**—Autumn fruiters are now in full bearing. The plants must not be overcropped, therefore cut the fruit when it attains a useable size, also remove early all ill-shapen and surplus fruit. Go over the plants once a week at least, and remove all bad leaves, stopping and tying the growth, laying in no more wood than can have light, cutting away the superfluous shoots. Winter fruiters do best if allowed to advance well up the trellis before stopping them, removing all side growths on the stem up to the trellis, and then train the side shoots right and left of the stem, not too closely, as well developed foliage is very important, particularly in winter fruiting plants. Remove all male flowers, and cut off tendrils as they appear. Add fresh warmed soil as often as the roots have fairly covered the sides of the ridges or hillocks, and if they need vigour use a little soot, and an occasional dusting of the bed with superphosphate will tend to improve the substance of the whole plant.

Maintain a temperature of 70° on mild, 65° on cold nights, 70° to 75° by day artificially, advancing to 80° or 85° with sun heat. Admit a little air at the top of the house on all favourable occasions, but avoid admitting cold air, and never lower the temperature. It is better to shut off the top heat for a few hours when the sun is powerful than ventilate it when the wind is strong or very cold, for it dries the air and causes a chill. The plants will not need syringing except on very fine days, when a light damping is beneficial, but the paths and other available spaces should be damped in the morning and afternoon and on bright warm days shortly after midday, keeping the evaporation troughs charged with liquid manure. Water the beds whenever they become rather dry, not allowing the plants to become distressed or to flag; but before the foliage becomes limp afford a thorough supply of that element or weak warm liquid manure. The water given to the roots must be of the same temperature as the mean of the house, and the soil used for covering the roots should be had inside some time to be warmed before placing it over the beds.

#### PLANT HOUSES.

*The Stove.*—The temperature in this structure should range from 60° to 65° at night according to external conditions. On very mild occasions



a few degrees higher will do no harm, but when the thermometer falls to freezing point outside the temperature must be kept as near the former as possible. If a high temperature is maintained Crotons and other foliage plants are induced to grow, which disfigures them, for there is not sufficient sun to colour their foliage. On all fine occasions the syringe should be used freely to keep the foliage clean. Thrips spread rapidly in a dry atmosphere and red spider will soon establish itself.

*Crotons*.—Young plants that are to be grown for another year should be repotted if they need more root room. It is a mistake to check them by confining the roots in small pots. They will if carefully watered root freely into the new soil if given a temperature a few degrees warmer than advised for the stove proper. Small shifts only should be given at this season of the year, and the plants potted now will be in capital condition for making vigorous growth early in the season. Plants that are growing too tall may be nicked and mossed ready for growing another year. In brisk heat roots are quickly formed, and when severed from the parent they soon become established if plunged for a few days in a close case where slight bottom heat can be given.

*Dracenas*.—Syringing may be practically discontinued. The bed upon which they are standing should be kept moist. Water these plants carefully, if given too much or subjected to too low a temperature the roots will die. Young stock that it is necessary to grow on may be potted. Plants that are damaged in rooms and are needed for stock should be kept in a temperature of 60°, and rather dry at their roots to ripen and harden their stems ready for cutting early in the year.

*Gardenias*.—Repot cuttings that have just been rooted singly and establish them in brisk heat, afterwards giving them ordinary stove treatment. The earliest plants that have flower buds swelling should have a temperature of 65°. Later plants will do in a night temperature 5° lower, provided they are watered with care. Strong stimulants should be avoided, also strong insecticides, after the flower buds once commence forming. Those that have not formed their flower buds may be thoroughly cleaned if mealy bug or scale infest them. Petroleum and water will be found the best solution for this purpose.

*Ixoras*.—These soon fail unless careful treatment can be given them. Good plants often decrease in health and vigour by the treatment they receive during the winter months. The syringe may still be used if a temperature at night of 65° can be maintained. If 5° lower it should only be attempted on the mornings of very fine days. The water used for this purpose should be a few degrees higher than the temperature of the house. The same rule applies to that used for the roots. This must be administered with care, as too much will prove detrimental, while on the other hand an insufficient supply will also be injurious. Keep the plants free from mealy bug and thrips. Young stock intended to flower in small pots will be all the better if they can be arranged where they can enjoy gentle bottom heat, but this must not exceed 70° to 75°.

*Euphorbia jacquiniæflora*.—The wood of those that were rooted late is still soft. They must be exposed to full light and sunshine. The temperature of the structure in which they are placed should not exceed 55° at night or they will continue to grow. The atmosphere should be moderately dry so as to harden them as much as possible. When the wood is soft and the plants are placed into brisk heat the eyes often start into growth instead of forming flowers. The same remarks as regards heat and temperature apply to Poinsettias that are soft and still growing. The earlier plants that have stopped growth and commenced to form their bracts should have a temperature of 65°, in which they will produce finer bracts of better colour than in a lower temperature. Weak liquid manure or artificial manure applied to the surface of the soil will be beneficial.

*Adiantum cuneatum*.—Plants that have been grown cool throughout the summer and the fronds have been gathered will soon start into growth again if placed into a temperature of 60° to 65°. The growth these plants push up will be found useful after the main stock is over. Young plants raised from spores and well established in 4-inch pots may be placed into 6-inch. These in a temperature of 60° will continue to grow, and whether required for furnishing or cutting will be found invaluable.

*Begonias*.—Plants of the manicata section as they are housed from cold frames should not, unless they are needed in flower, be placed in heat. This is a mistake, they will do well for the present in a cool house that can be kept moderately close where the atmosphere is dry. Other winter kinds need an intermediate temperature. They will soon flower freely, and will be found invaluable for cutting. Any that are not needed for the present may be pinched. The varieties of *B. nitida* are useful in the stove early in the year, these if in small pots may be potted, also a good number of *B. Ingrami* that are now in thumb pots. Late struck cuttings or seedlings of varieties of *B. semperflorens* may also be potted if they need more root room.

*Anthurium Schertzerianum*.—Plants that have completed their growth may be removed from the stove to an intermediate temperature to rest. While in this structure be careful not to give too much water. They enjoy a month or six weeks in a lower temperature, and flower more profusely in consequence.

*Anthurium Andreanum*.—One of the most useful plants that can be grown for the stove during the winter. Its large bright scarlet spathes are very attractive, and equally useful in a cut state. The plants for the ornamentation of the stove are most effective in 6 or 7-inch pots. When a large plant can be obtained there is no difficulty in raising a stock.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### PREPARING FOR THE FUTURE.

I HAD just finished my last hive for the winter on October 14th, the day of the great storm, when the barometer in several hours fell more than an inch, running down from 29.40 to 28. The evening was too far advanced before I observed this or I would have taken precautions. Fortunately no hives containing bees were capsized, only a few untenanted ones. On the following morning there were still signs of storms, so I hurriedly loaded full and empty ones with bricks or any weighty material that came to hand until I have all steadied with a stake driven firmly into the ground close to each hive and tied firmly to it, this being more sightly than weighty articles, and more easily secured or separated.

#### ECONOMY AND UTILITY.

I employ no superfluous adornments, nor anything that may hinder easy transit, or that may add unnecessarily to expense. My hives stand complete. Most of them this year are occupied by bees in two body divisions. The third division, and the super protector above it, serve for holding winter packing and supers. The former consists of a piece of woollen cloth next to the frames, and 4 inches of dried grass above. The slips between the frames are left in, there being sufficient opening to allow the escape of moisture. The rest of the space above the packing holds three storeys of empty supers. Those not in outside cases are covered with two or three plies of sacking or woollen material, and that again covered with an oilcloth or felt tarred and limed.

This arrangement permits all the moisture created within the hive to leave before it is condensed within or upon any outer part of the hive, thereby preserving it from decay and the bees from injury. This same arrangement favours under feeding, which I prefer in most cases as being quicker, while the bees sometimes feed more readily from below than from above, and it has the advantage of never causing a current of cold air in the hive, as upper feeders do, which lower the temperature of the hive considerably. The bee-keeper who follows out these or similar plans will be studying his own interest in point of economy and utility.

When I take my bees to the Heather the felt or oilcloth curtain is dispensed with, shade being more essential than warmth at that season, a single piece of sacking around the hive, and an oilcloth on the top, being sufficient. Of course the supers must be well covered. Thus lessening the clothing of the hives there is little to cumber *en route*, and as the alighting boards fold up the hive becomes of very small dimensions, and enables us to take upwards of fifty hives at as little expense and space as a dozen of most of the modern make of hives. That is a large item, and stamps in a stereotyped manner the disadvantage of the cumbrous and expensive modern type of hive.

#### FEEDING.

This is another important point in bee-keeping. My motto has always been never to feed bees if it can be avoided, but unfortunately we are compelled to resort too often to feeding if honey gathering is nil when we expect it would be at the highest. Although I have pointed often, and in the foregoing, some of the evils of top-feeding, my feeders are a combination of top and bottom feeders, and by that means I am enabled to have a portion of the feeder inside the hive permanently. These scoops can be made to hold from 1 to 8 or 10 ozs., and better they be broad than too long, as if the latter, the hive being off the level, the syrup would flow away. The scoops, whether they are broad or narrow, should have a spale float.

We would fain hope that such seasons as we have experienced for years would never recur; but whether or not, there are few



seasons that has not a discontinuance of honey gathering, often too at the most critical time for bees to draw their brood. The queen does not stop laying, although the bees fail to bring them forward, but by the judicious and timely feeding of all the colonies this will be prevented, and instead of depopulated hives at the late honey gathering we have strong ones, which in some seasons makes all the difference between a yield or no yield of honey.

The best method of supplying the syrup, whether it be at home or the moors, is to have the dissolved syrup in a can, from which pour into a bottle and run along all the hives, giving each their allowance to keep up breeding, but nothing more. The time occupied in feeding fifty need not exceed ten minutes. The feeder that does not offer these conveniences is incomplete. I trust those who read these notes will see the propriety and advantage of having their hives in a fit state before the time comes for moving bees about, so that there may be a chance of keeping a moving apiary at a profit.

#### PUNIC BEES.

I have just read the following in *Gleanings*:—"Punic bees, while so highly praised by those who sell them, have strong insinuations thrown out against them by British bee-keepers." The above is simply a misleading statement, and is on a par with much that has emanated from the same quarter. I have praised the Punics because I have proved them to be an acquisition; and as I do not sell anything connected with bees, not even sugar at 20 per cent. profit, I repudiate the statement.

#### BEE SOCIETIES AND ASSOCIATIONS.

If we were to believe the hundredth part of what has been written it would appear that the whole art of bee-keeping had been discovered by a few interested persons. But when we sit down and overhaul our past records the thing is entirely reversed, the greatest amount of good having sprung from the least rewarded and most unostentatious individuals. The country has been canvassed far and near for subscriptions to assist bee-keepers, those who really benefited being the dealers. The greatest part of the money in many cases went to the last named, who, as a rule, had the helm of affairs in their own hands. The greatest cry amongst bee-keepers was the difficulty in disposing of their honey, and yet they were advised to increase their stock, and were told that 3d. per pound was sufficient for it, and that they had no right to expect payment for time spent looking after their bees.

I observe a writer in a contemporary (A Scotchman) complaining of the arbitrary conduct of directors of shows and supposed leaders of bee-keepers, which I am glad to see, as it may revolutionise the existing system, and I gladly advise bee-keepers to be free, and to study their own interest. Establish a system that will prevent middlemen controlling the market and taking from 50 per cent. to 100 per cent. profit, and let the public know that they can be supplied cheaper and better under this system than the old one.

The year 1890 did not yield a plentiful supply of honey in most districts, but in some parts of the West Highlands it did. I took in hand to dispose of some of first-class quality for an acquaintance, but because it was October and the Apple season honey could not be bought. It is rather singular that the winter months being the time most suitable for eating honey Italian warehousemen should prohibit its sale when it is in greatest request.

When the Caledonian Apiarian and Entomological Society was started a market for honey was one of its principal motives, yet when urged to adopt it it was opposed on every side, and this too when there was a honey glut, and some of its members could not command a sale at anything like remunerative prices. There is another strong reason why a co-operative market should be established. Much adulterated honey is sold, and one Edinburgh merchant encourages this, giving to bee-keepers sugar to be con-

verted into comb, which he says is preferred by many to honey proper. This gentleman advises, too, imitating Heather honey by infusing Heather and using the liquid to dissolve the sugar. There is no doubt as to the accuracy of the above, as I had the offer (through a friend) of the sugar, which I respectfully declined to accept, never having allowed sugar to be mixed with the honey in the hive or out of it. Space forbids saying more upon this important topic, but enough has been said to arouse bee-keepers to a sense of their own interests and duties.—A LANARKSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

James Cocker & Sons, Aberdeen.—*Catalogues of Roses, Perennials, and Herbaceous Plants.*

English Fruit and Rose Co. (Cranston's), Limited, King's Acre, Hereford.—*Catalogue of Roses, Fruit Trees, Forest Trees, and Conifers.*

Frank Cant, Braiswick Nursery, Colchester.—*Rose Catalogue for 1891-1892.*



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Books and Microscopes (F. G.).**—A work that would probably suit you is Johnston and Cameron's "Elements of Agricultural Chemistry and Geology," as, though it is not strictly applied to gardening, it embodies the same principles. It is published by W. Blackwood and Sons, 37, Paternoster Row. Microscopes vary greatly in price and usefulness, but for two or three guineas you could obtain one that would enable you to study as much as you would require.

**Strawberries (Querist).**—We disapprove of the practice of cutting all the leaves off when the plants are trimmed after fruiting. We have known future crops prejudiced by this thoughtless practice, but, on the other hand, we have seen fair yields after the defoliation. A good deal depends on the age of the plants, soil, and season, and if your plants are fairly vigorous you may have a moderately good crop of fruit next year.

**Mildew on Cinerarias (J. B.).**—Leaves that are checked in growth like the small one sent we should burn, but those only slightly affected we should endeavour to save, and we should not like to destroy the plants, at least at present. Try the effect of black sulphur, so holding the leaves that the points of the fine hairs face the application; the sulphur then may fall between them. It is the downy covering that we suspect prevents its reaching the mildew. We should also maintain a drier atmosphere if you can do so. The soil is perhaps fully too rich, and the leaves have not been able to elaborate the crude sap that has been abundantly afforded.

**Walnut Tree not Bearing (P.).**—Walnut trees raised from seed vary greatly, as do Apples and other fruits, both in quality and productiveness. Some Walnut trees bear early and freely, others are many years before they show fruit, and are never productive. The fact of your having to cut dead wood out of the tree suggests that the roots are not in the best of mediums, and the soil may either be too poor or too wet for promoting sound healthy growth, but as we have said some varieties are essentially shy in bearing, and we suspect cannot be made productive. We know trees fifty years old that seldom bear, and never more than the poorest crops of nuts. The price of timber varies very considerably in different localities, and you can best obtain the desired information by consulting one or two local timber merchants.

**Storing Medlars (Dr. W.).**—You have perhaps gathered the Medlars too soon in previous years. Let them remain on the trees so long as the weather continues mild, and even a little frost will do them no harm. If gathered too soon they are apt to shrivel, especially in a very dry place, such as a room cupboard. We have never had any difficulty with them over a period of forty years. They were simply spread on the shelves in a dark fruit room in which the temperature



ranged between 40° and 50°, according to the weather, and the atmosphere, while not distinctly damp, was less dry than that of a living room. Some persons spread the fruits singly on clean sand, calyx side downwards, dipping the stalk end in brine for preventing mould, though we have not found such methods necessary. Try later gathering and a less dry storeroom.

**Trees and Shrubs for Chalk Banks (M. T. R.).**—Of all trees the most likely to succeed is the Beech (*Fagus sylvatica*), which we should use chiefly along with others of the same genus—viz., Fern-leaved and Purple leaved. Birch, as you have found, does fairly. The Hazel, Privet, and Blackthorn will afford the "cover" required. Bird Cherry (*Cerasus Padus*), and the Virginian form (*C. Padus virginiana*), Scotch Laburnum, Mountain Ash, Gold-variegated Elder (common Elder being desirable as shelter). Scarlet-fruited Elder, *Euonymus europæus*, Elms, Exeter and English White Beam, Lime, red-twigged and Snowy Mespilus, may be added if you wish for greater variety. In evergreens, English Yew and common Holly, with *Mahonia aquifolia*, *Hypericum calycinum*, Broom, and common Laurel (in the lowest situations) may be used. Corsican and Austrian Pine would probably succeed, particularly the latter.

**Mushrooms in Cucumber Houses (H. G. O.).**—Mushrooms may be and are admirably grown in structures in the winter that are devoted to Cucumbers and Tomatoes in the summer. The preparation of the manure and routine management are exactly the same as described in the work you possess. The beds may be either flat or ridge shaped, according to convenience, as suggested by the size and form of the house. One grower has them ridge shaped on the floor in a very wide span-roofed structure, and flat in narrow structures, making the beds where the Cucumbers have grown on each side the central path. Highly satisfactory results have been obtained by growing Cucumbers as indicated entirely by turning to account the information given in the book. One grower had a clear profit of £50 last year. He will have more this, as he started sooner, having material prepared ready for making up immediately the Cucumbers ceased bearing profitably. See the example of growing Mushrooms in a vinery on page 113 of the sixth edition of the work in question. A temperature of 50° to 55° is suitable, and the beds must be well covered to prevent evaporation and exclude light. Mushrooms will grow, but more slowly, in a temperature of 45°, and even less in strong beds; also in a temperature of 60° to 65°, when it is necessary to have a supply at a particular time which could not be otherwise obtained; but the higher the temperature above 60°, the sooner, as a rule, are the beds exhausted.

**Neglected Box Edging—Plum Trees Grown from Wall (G. E. B.).**—1, Provided the Box is close enough in the stems at the bottom, so that when cut down there will not be any gaps, it would be the best plan to cut it down in spring, say during mild, moist weather in April or May, better late than too soon, and it will push growths freely from the base, and make a good growth the first summer, trimming off irregularities in July. If gappy there is no remedy but to replant, which may be done in mild weather during the winter, taking off the slips with a portion of roots, and inserting them in the soil to within 3 inches of the tips of the growths, merely cutting off irregularities. Autumn or early spring is the best time to replant Box edgings. The soil should be made firm about the stems, and if dry well watered. 2, The Plum tree has been correctly treated—namely, new growths laid in, and those projecting from the wall shortened, provided those trained in are not nearer than 9 inches apart. This admits of their having the essential light and air, assuring to the growths the benefit of the wall's warmth. 3, The tree that has only three stems nearly 3 inches in diameter may or may not be improved by cutting down. We have cut down several, and they have broken again freely from the old wood, in three years made growth covering a large extent of wall space, and borne finer fruit than on the old branches. It does not, however, answer in all cases, the trees not always breaking well, and in some cases it induces gum in the young growths. 4, There are plain and sound hints on pruning in "Profitable Fruit Growing," which is sold at this office for 1s. 3d. post free, but we think the second edition is nearly exhausted.

**Names of Fruits.—Notice.**—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only x specimens can be named at once, and any beyond that number cannot be preserved. (*J. R. Nere*).—Not known; worthless. Graft the tree with some good and well-known variety. (*D. M., Ayrshire*).—1, Beurré Diel; 2, Marie Louise; 3, Durondeau. (*F. B. Burbiage*).—1, Beurré d'Aremberg; 2, Beurré Clairgeau; 3, Beurré Diel; 4, Defective specimen; 5, Van Mons Léon Le Clerc. (*F. J. B.*).—1, Yellow Ingestrie; 2, Nonesuch; 3, Cellini; 4, London Pippin; 5, Brabant Bellefleur; 6, Kentish Filltasket. (*A. B.*).—2, Claygate Pearmain; 4, Lady Henniker; 5, Beurré Diel. (*H. E. M.*).—1, Beurré Rance; 2, Possibly Marie Louise on a Quince stock; 3, Marie Louise; 4, Comte de Flandres. (*J. B.*).—Gloria Mundi; trees can be obtained in all good fruit tree nurseries. (*R. Wardman*).—1, Bedfordshire Foundling; 2, Emperor

Alexander, poor specimen; 4, Dredge's Fame; 5, Defective specimen. (*W. R. R.*).—1, Kirke's Fame; 2, Round Winter Nonesuch; 3, Dumelow's Seedling; 4, Bedfordshire Foundling; 5, Northern Greening; 6, Maltster. (*H. H.*).—1, Brabant Bellefleur; 2, Devonshire Queen; 3, Professor; 4, Maltster; 5, Cox's Orange Pippin; 6, Tower of Glamis. (*C. B.*).—We have received two parcels of Apples under these initials, both from Abbots Langley, and we fail to see how the senders can identify their own, therefore the fruits are not named. (*T. T.*).—1, Adèle de St. Denis; 2, Beurré Diel; 3, Beurré d'Amanlis; 4, Beurré Bose; 5, Beurré Clairgeau; 6, Beurré d'Aremberg. (*J. W. Rimmer*).—1, Beurré Diel; 2, Beurré Sterckmans; 3, Broompark; Plum Coe's Golden Drop. (*Henry Pooley*).—1, Beurré Hardy; 2, Figue de Naples. (*Henry Wright*).—Not known; probably local; worthless. (*J. Lyne*).—3, Maréchal de Cœur; the other may possibly be a small fruit of Souvenir du Congrès. (*F. M. M.*).—Both fruits are what you suggest. The Pears are so similar they do not require separate descriptions. (*W. A. Mackenzie*).—1, Alfriston; 3, Cellini; 4, Betty Geeson; 5, Golden Spire; 6, Peasgood's Nonesuch. (*S. Knowles*).—Pear Beurré Capiaumont; 2, Dumelow's Seedling; 3, Golden Noble; 5, Flanders Pippin; 6, Reinette de Canada. (*A. J.*).—1, Lady Downe's; 2, Alicante; 3, Too much bruised; 4, Madresfield Court. The Pear is Beurré Clairgeau. (*John Smith*).—1, Quite rotten; 2, Green Chisel; 3, Grenadier; 4, Lane's Prince Albert. We have now attended to all the fruits that were received up to Wednesday, 20th inst.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*C. D., Wales*).—The plant is *Lycium europæum*, a member of the Solanum family, and some species are known as the South Sea Tea Tree. (*J. A.*).—The plant which you received under the name of *Aerides odoratum* must certainly have come from a rather mixed source, and we are not surprised that you "see a great difference in flowers." It is *Vanda cœrulea*, one of the flowers sent being "doubled" owing to a kind of fasciation.

#### COVENT GARDEN MARKET.—OCTOBER 21ST.

COB trade slightly slower.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, ½-sieve .. ..	1	0	to	4	Oranges, per 100 .. ..	4	0	to	9
Cobs, Kent per 100 lbs. ..	32	6		35	Peaches, per doz. ....	1	0		6
Grapes, per lb. ....	0	6		2	Plums, ½-sieve .. ..	0	0		0
Lemons, case .. ..	15	0		20	St. Michael Pines, each..	3	0		8

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus, per bundle ..	0	0	to	0	Mushrooms, punnet ..	1	6	to	2
Beans, Kidney, per lb. ..	0	4		0	Mustard & Cress, punnet	0	2		0
Beet, Red, dozen .. ..	1	0		0	Onions, bunch .. ..	0	3		0
Carrots, bunch .. ..	0	4		0	Parsley, dozen bunches	2	0		0
Cauliflowers, dozen ..	2	0		3	Parsnips, dozen .. ..	1	0		0
Celery, bundle .. ..	1	0		1	Potatoes, per cwt. ....	3	0		4
Coleworts, doz. bunches ..	2	0		4	Salsafy, bundle .. ..	1	0		1
Cucumbers, doz. ....	1	0		2	Scorzoneria, bundle ..	1	6		0
Endive, dozen .. ..	1	3		1	Shallots, per lb. ....	0	3		0
Herbs, bunch .. ..	0	3		0	Spinach, bushel .. ..	2	0		0
Leeks, bunch .. ..	0	2		0	Tomatoes, per lb. ....	0	4		1
Lettuce, score .. ..	0	9		1	Turnips, bunch .. ..	0	0		0

#### AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms not plentiful in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	6	Maidenhair Fern, dozen				
Asters, doz. bunches ..	4	0		6	bunches .. ..	4	0	to	9
(French) doz. bels. ..	9	0		15	Marigolds doz. bunches ..	1	0		2
Bouvardias, bunch .. ..	0	6		1	Mignonette, 12 bunches ..	1	6		3
Carnations, 12 blooms ..	1	0		2	Myosotis, dozen bunches	2	0		4
Chrysanthemums, dozen					Pelargoniums, 12 bunches	6	0		12
bunches .. ..	4	0		9	" scarlet, 12 bnchs	4	0		6
Chrysanthemums, dozen					Primula (double) 12 sprays	0	6		1
blooms .. ..	0	9		3	Pyrethrum, doz. bunches	2	0		4
Dahlias, doz. bunches ..	2	0		4	Roses (indoor), dozen ..	0	6		1
Encharis, dozen .. ..	2	0		4	" (mixed), doz. bnchs.	4	0		6
Gardenias, per doz. ....	1	6		4	" Red (English) per				
Gladiolus, dozen bunches	4	0		8	dozen blooms ..	0	9		1
" per 100 spikes ..	8	0		10	" Tea, white, dozen ..	1	0		2
Lapageria, 12 blooms ..	1	0		3	" Yellow, dozen ..	2	0		4
Lilium longiflorum, 12					Tuercos, 12 blooms ..	0	3		0
blooms .. ..	4	0		6	White Lilac (French) per				
Lilium (var.) doz. blooms	1	0		3	bunch .. ..	5	0		7
Marguerites, 12 bunches	2	0		4					

##### PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralia Sieboldi, dozen ..	6	0	to	12	Evergreens, in var., dozen	6	0	to	24
Arbor Vitæ (golden) doz.	6	0		12	Ferns, in variety, dozen ..	4	0		18
Asters, dozen pots .. ..	3	0		6	Ficus elastica, each ..	1	6		7
Begonias (various), doz.	4	0		9	Foliage plants, var., each	2	0		10
Climi Plants, per dozen ..	6	0		12	Fuchsia, per doz. ....	4	0		9
Chrysanthemums, per doz.	4	0		9	Heliotrope, per doz. ....	4	0		6
" large, doz. 12 ..	12	0		21	Lilium, various, doz. ....	18	0		30
Coleus (various), per doz.	3	0		6	Marguerite Daisy, dozen	6	0		12
Dracæna terminalis, doz.	24	0		42	Mignonette, per dozen ..	8	0		6
" viridis, dozen ..	12	0		24	Myrtles, dozen .. ..	6	0		12
Erica gracilis, per doz. ..	9	0		12	Palms, in var., each ..	2	6		21
" hyemalis, doz. ....	12	0		18	Pelargoniums, scarlet, doz	2	6		4
Enonymus, var., dozen ..	6	0		18	Solanum, per dozen ..	9	0		12





## DRAINING LAND.

As autumnal tillage draws to a close, and the falling foliage of deciduous trees reminds us that winter is drawing near once more, reference is made to our note book for a reminder of wet spots where the crops failed in the past summer owing to defective drains, as well as of fields with the soil so water-logged that drains are indispensable, and must be had before another season's growth begins.

We may usefully remind our readers that land containing superfluous water, and from which the water does not pass away freely either naturally or artificially, is practically useless for cultivation. It may be worked deeply, manured thoroughly, and cropped carefully, but it will be all to no purpose till drainage relieves it of the accumulation of water, which has not only kept it sodden and sour, but has also kept out air and the warmth which accompanies air circulation in the soil.

Warmth comes to the soil from drainage in another way, too, which all farmers ought thoroughly to understand. Gisborne, in his *Essays on Agriculture*, taught long ago that humid soils were very little benefited by summer heat, because water in a quiescent state is one of the worst conductors of heat. Water warmed at the surface transmits little or no heat downwards. The small portion warmed expands, becomes lighter than that below, and consequently retains its position upon the surface, and transmits no heat underneath. Evaporation is constantly going on, as the moisture constantly rises by capillary attraction to the surface, and so not only is the temperature of the soil low, but that of the atmosphere in contact with the surface is low also.

The undrained soil is thus kept sodden and cold by the water of attraction that is constantly ascending through it and passing off upon the surface by evaporation. Let us understand what this means. Gisborne shows that the evaporation of 1 lb. of water lowers the temperature of 100 lbs. of soil 10°. There is the fact, do not forget it; and remember also, that when by judicious drainage we practically put a stop to such hurtful evaporation, keeping the water of attraction down to the drain level, and drawing off all superfluous water by filtration, we open the pores of the soil to atmospheric action. Every drop of water withdrawn from the soil by filtration leaves a vacuum that is instantly filled by air, the pressure of which upon the surface has been computed at 15 lbs. to each square inch.

There is the theory of drainage placed once more before our readers, and it should be thoroughly mastered, so as to influence our practice beneficially, and enable us to do our work in the best way. There is really nothing in it but what an ordinary mind can grasp and retain, but its importance is obvious enough, and it is worthy of thoughtful discussion. Let the presidents of farmers' clubs and agricultural chambers take for their next subject of discussion the theory and practice of land drainage, and they will find their meetings much better attended than when they are discussing the political aspect of some agricultural question.

Now for the practical side of the question. The depth and distance apart of drains must always depend upon the nature and condition of the soil. To say that all land drains must be 4 feet deep and 30 feet apart is absurd. Happy is the man whose soil and subsoil is amenable to such treatment. We have drained land successfully in that way, but our success arose chiefly from the subsequent deep and thorough tillage of the soil. Taking that as the maximum depth and distance apart it may be modified in very heavy land downwards to 15 feet apart and 2 feet deep. This of course means much more expense, and it should have very careful

consideration beforehand, for it is quite worth while to calculate the cost of clay burning, lime dressing, dressings of coal ashes if they can be had in conjunction with the drainage. Much better is it to open up the soil and ensure its thorough division than to have drains very close together. Let the two processes of cultivation have equal attention, and the result is bound to be satisfactory.

Let calculations be made of the number of pipes required—2-inch for the branch drains and 4-inch for the main drains—and let them be carted on to the land as horses can be spared for the work. The drains should be marked beforehand, and a staff placed for every heap of pipes, the number for each heap being given to the man who receives the pipes from the carter. The branch 2-inch drains should all run downwards to the main 4-inch drain, or to any convenient natural outfall; we have frequently been able to avoid making a main drain by taking the drains into a ditch. In Suffolk especially, where all old ditches on farms are very deep and wide, main drains are seldom necessary.

## WORK ON THE HOME FARM.

Mangolds have now attained full growth, and nothing will be gained by leaving them longer on the land. The risk of damage by frost, too, is so great now that no time should be lost in saving the crop. Let the heaps in the form of long ridges be made close by a hard road at the most accessible and convenient points for use in winter, cover the heaps well with straw, and cover it with enough soil to exclude frost from the roots. In frost of exceptional severity many of the roots in the outer layer are often frozen and spoiled, so that it is quite worth while covering the Mangold ridges with an outer layer of rough litter, such as Sedges, Fern, or hedge clippings, to make all safe. With such an abundance of herbage on pastures the Mangold tops can certainly be spared for ploughing in now, and the sooner it is done after the roots are cleared the better it will be for the land.

Early crops of Swedes should also now be used, or stored in heaps for folding later on. An excellent plan is to place them in small circular heaps equi-distant all over the field, for folding with hoggets in time for Barley or spring Oats. Care should be taken to follow the folds closely with the plough, and not to plough too deeply for such crops.

Late sown crops of Swedes are now small firm roots, and we shall follow our usual practice of leaving them out for the ewes and lambs to be folded on in next February and March. The late Swedes so left out suffered so much from frost in some districts last winter as to be practically useless. But that was such a frost as may not occur again for a life's time. Certainly we shall not let it influence our practice, as we always take care to have the late Swedes sown in a well-drained upland field where the risk of harm is reduced to a minimum.

Early hoggets are now in folds on late white Turnips and Swedes, sown in alternate strips across the field. They have a few hours on pasture also every day, and are all the better for the change. These sheep are having a pint of nibbled Oats per head daily, as well as the roots, and are in forward condition for the butcher. A nice batch of such sheep, and a score or two of steers coming off marsh pasture towards the end of this month, wanting little, if any, finishing for market, is the sort of thing to give a farmer a free hand, and to enable him to avoid corn-threshing till autumn work is over and the corn is in sound condition. That is good management, but then it requires plenty of capital for it to be done in the best way.

## METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

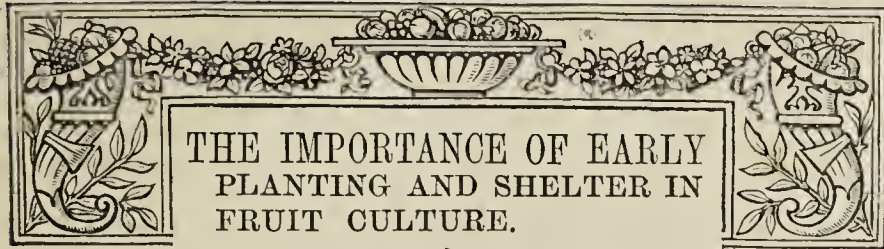
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain
		Barometer at 329 and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Temperature.		Radiation Temperature.		
Dry.	Wet.		Max.	Min.			In sun.	On grass			
1891. October.		Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Sunday .....	11	29.581	55.8	53.7	S.	54.0	62.2	49.1	82.6	43.0	0.130
Monday .....	12	29.423	49.2	47.6	S.W.	54.0	59.3	46.9	93.9	41.2	0.068
Tuesday ....	13	29.461	59.1	46.9	S.	52.4	60.6	43.9	75.2	36.2	0.236
Wednesday ..	14	29.486	54.7	48.9	S.W.	52.4	62.0	50.1	100.9	44.6	0.074
Thursday ....	15	29.531	55.0	52.1	S.S.W.	52.0	59.1	50.3	92.7	43.2	0.437
Friday .....	16	29.534	53.6	51.1	S.W.	51.1	57.7	45.1	91.1	36.9	0.061
Saturday ....	17	29.817	47.2	44.7	S.W.	50.9	58.0	41.8	97.8	36.6	0.010
		29.552	52.2	49.3		52.4	59.8	46.7	90.6	40.2	1.051

## REMARKS.

11th.—Fair morning, with a little sun; wet afternoon and night.  
 12th.—Bright almost throughout, but a shower at 120 P.M., the sun shining meanwhile.  
 13th.—Bright from sunrise to 9 A.M., then overcast to noon; wet afternoon, and heavy rain at night. South-east gale in afternoon and night.  
 14th.—Generally bright, with high wind, but occasional rain squalls, and thunder at 11.20 A.M.  
 15th.—Wet till 9 A.M., and generally overcast till 11 A.M.; thunderstorm at 11.30, with hail and heavy rain, then alternate sunshine and rain squalls; bright afternoon and evening.  
 16th.—Wet till 9 A.M., and generally cloudy in morning; bright afternoon; rain at night.  
 17th.—Bright till about 3 P.M., then overcast, with occasional slight showers or drizzle. Another wet week, with a heavier gale than has recently occurred, and thunder on two consecutive days.—G. J. SYMONS.





NOVEMBER, the best month of the year for planting fruit trees, will soon be here, and a reminder now to planters of two points of special importance in fruit culture, which are often ignored even by old practitioners, but which are worthy of our best attention, will, I hope, prove useful.

They are worthy of prominence, because early planting points to the early establishment of the trees in the soil, while shelter points to the protection of the blossom from the cold scathing winds from the north-east, which are so prevalent in spring, and to that of the fruit from autumnal sou'-westers, which so frequently sweep the fruit from the branches of orchard trees just as it is approaching maturity.

Standing on the northern slope of a Leicestershire valley one evening in the last week of August this year, during a violent gale of wind, I watched with interest the branches of the timber trees dashed together by the fury of the storm, which came rushing up the valley from the south-west, with a noise like the roaring of a high sea. One could not but think of the damage and loss which such a storm must cause as it swept through any orchard in its course—damage which might so easily be avoided, and loss which ought not to be incurred from such a cause.

Why is it that shelter has so little attention in fruit culture? This is a question which I for one cannot answer. The importance of shelter is so self-evident that one would suppose it would have at least equal care with the planting of the fruit trees.

Now the due provision of shelter is a very simple matter. With the planting of an orchard or fruit plantation there should also be the planting of shelter belts enclosing small orchards, enclosing and dividing large ones. The tree best adapted for this purpose is Lombardy Poplar by its erect habit, the rapidity of its growth, and the earliness with which it comes into leaf in spring.

A double row of it, or rather two rows, so planted that each tree forms a triangle with the two nearest it in the other row, makes a tolerably efficient barrier, calculated to break the force of high winds sufficiently to prevent damage to fruit. But when space can be had a belt of three or four rows of Austrian Pines outside the two rows of Lombardy Poplar is most desirable, especially for shelter from cold cutting winds in spring.

I give preference to *Pinus austriaca* for this purpose, both for its dense growth and because trees of it, 6 or 7 feet high, transplant so well that it soon attains a useful height. But it should never be used as a substitute for the Poplar; that is the tree of trees for our purpose, and double rows of it might be made to intersect others in large orchards, dividing the orchards into squares of, say, a hundred feet in diameter, the loss of space being more than counterbalanced by the efficient shelter thus obtained.

For small plots hedges of the Myrobalan Plum answer admirably. It is of a singularly robust vigorous growth, soon affording shelter, for it may be clipped as freely as the common Hawthorn. If space can be had it may be left to grow unpruned in view of obtaining fruit from it in large quantities.

Conjointly with the provision of shelter belts, attention should be given to the selection of fruit trees easy to shelter. The best of all forms for general purposes in fruit farming is undoubtedly the half standard, with its stem of about 4 feet in height; the branches are elevated just sufficiently to render them most

accessible for all purposes of cultivation; they are open to the full action of light and air; the fruit is easily thinned, easily gathered, and easily sheltered from high winds.

In grass orchards only should lofty standards find a place in fruit culture, for there and there only have we a good and sufficient reason for their existence.

It should also, I think, be strongly impressed upon those whom we hope to induce to devote some part of the land they own or hire to fruit farming, that every sunny slope, every sheltered nook is of account in fruit culture. Do we find that such natural advantages have been turned to account? We do not. One could point to a hundred hillsides, valley slopes, and hollows, some with natural barriers to cold winds, others requiring only a little judicious tree-planting to render them perfect for the culture of early soft fruits.

Turn them to full account for this purpose, and the fruit will be ready for market several days—aye, and in some cases even weeks—before that grown under ordinary conditions. This points so certainly to profitable results, that it is certain to have a leading place in fruit farming wherever it is possible.

I am bound to say that the importance of early planting cannot be estimated too highly. So repeatedly have I proved this in my own practice that one wonders it has not long ago had more general recognition. Fruit trees planted early in November make root growth at once. Let us see what this means to the intelligent planter.

His aim in planting early is to have the trees sufficiently established in the soil to promote free, vigorous, unchecked growth in the following spring and summer, so that the tree may take full advantage of the first season of growth after the planting. To enable it to do this in the best way the shoots are thinned if necessary, and shortened to those buds which are in the best position for branch growth.

When the rising temperature of spring causes the buds to swell, to grow, to put forth leaves, stored up sap is drawn from the adjacent wood tissues, and so on downwards to the roots. Then comes the crucial test of the planter's work. If this has been done well and early in autumn the tree will have put forth rootlets bristling with root hairs, through which it takes in food from the soil, and so the demands for sustenance from the soil will be met promptly and fully, branch growth will continue unchecked, and become so robust and vigorous that really fine heads will be formed in the first season of growth. There is no doubt or difficulty whatever about this matter if only the trees are planted early and well, and are pruned at the time of planting, though some experienced cultivators prefer shortening the branches in spring.

If, on the contrary, the trees have none of these cultural advantages, are left unpruned, are planted late, they are practically in a state of stagnation in the following summer. They put forth some leaves, but there is no appreciable growth, a season is lost, nor can any good reason be advanced for this wasted year. There is always due balance and proportion between branch and root growth, and in the early planted trees there is root action as vigorous as that of the branches, so that when growth ceases in the autumn they have plenty of roots to afford ample supplies of food to the branches in the following spring.

There stand the trees, then, pictures of health, models of skilful culture, requiring nothing but a sufficient thinning of branch growth to leave only enough on the tree to form a well balanced head, for these are the main branches, and they must be thinned freely and judiciously.

I have said that to ensure such desirable results the trees must be planted early and well. By this is meant not the simple act of planting only, but fertile well drained soil, keeping the roots moist and as little exposed to the air as possible from the time they are received from the nursery till they are planted. I have frequently had occasion to give the roots a thorough soaking with water as



they came to hand from the nursery before planting or bedding in trenches.

Then, too, there is the careful spreading out of and packing of every root in fine soil; the firm yet gentle pressure of soil about the roots, a surface dressing of manure, and the fastening of the tree to a safe support, so that wind rocking or loosening of the roots in the soil is impossible. All simple matters, but every one of them important factors to success, and which are included in the term to plant well.

I would say in conclusion that the few cultural points I have striven to make clear to you are in a great measure the key to that success which I heartily wish to all who may be induced to begin fruit culture this season.—EDWARD LUCKHURST.—[Read at the Manchester Fruit Conference.]

## THE BRITISH SCHOOL OF GARDENING.

A JOINT Committee of the Worshipful Company of Gardeners and of the Royal Horticultural Society have for some time past been considering the subject of the establishment of a School and College of Technical Horticulture and small husbandry. The Committee have drawn up the following scheme to be submitted forthwith for adoption by the Court of the Worshipful Company of Gardeners and the Council of the Royal Horticultural Society. We should be greatly obliged if you would give publicity to this project, which the Committee venture to regard as one of high national importance.

JAMES CURTIS, *Clerk to the Worshipful Company of Gardeners, 9, Old Jewry Chambers, E.C.*

W. WILKS, M.A., *Secretary Royal Horticultural Society, 117, Victoria Street, S.W.*

*General Objects.*—To impart a higher class of education in the principles and practice of the cultivation of fruit, flowers, vegetables, &c., than is at present obtainable in Great Britain: to

A, Persons wishing to qualify themselves for employment in gardening and garden-farming in this country.

B, The sons of landed proprietors, farmers, and any others who are interested in gardening and garden-farming.

C, Persons who may be desirous to emigrate, or may be already resident in the colonies.

Preference will, however, be given to students of British birth.

*Eligibility of Students.*—No student will be admitted who does not already possess some elementary practical knowledge and experience of gardening or garden-farming. All students will, under ordinary circumstances, be expected to continue their studies for at least two years.

*Employment of Students.*—The object being to impart a thoroughly practical education in gardening, all students must be prepared to devote themselves to the manual as well as to the scientific branches of the work, and to yield implicit obedience to the directors.

*Classes and Lectures.*—Efficient directors will superintend the instruction in the various branches of cultivation, and lectures on the scientific aspects of gardening and garden-farming will be delivered by qualified persons and illustrated by practical demonstrations.

To attain the object in view it is proposed that the Worshipful Company of Gardeners, in conjunction with the Royal Horticultural Society of Great Britain, should secure suitable land where experimental and practical gardening and garden-farming may be carried on, pending which, arrangements are being made to utilise the gardens of the Royal Horticultural Society at Chiswick for the instruction of students in connection with this scheme.

## SCILLA SIBERICA.

FEW bulbous plants are so quickly naturalised as this charming Scilla. The bulbs do not increase so rapidly as either the Snowdrop or the Crocus, but seeds are produced with such freedom that a large stock can be quickly raised. As far as I am aware the whole of the bulbs required for distribution by the wholesale and retail trade are imported. This is to be regretted, for bulbs could be as well grown at home and at perhaps less expense than the Crocus. Home growers will doubtless in time see the wisdom of taking in hand the culture of such bulbs as will flourish well in this country. The seed of the Scilla should be sown as soon as it is ripe in shallow drills on well prepared ground, the drills being similar to those

needed for Onions, only 6 inches apart. The seed must be lightly covered, so that the drills are visible until the end of the season, and the hoe if necessary can then be run between them to keep the ground free from weeds. The seedlings will appear above the ground in spring like Onions, which they closely resemble in a young state. If the seeds are washed bare by autumn and winter rains Nature seems to have provided for these a sufficient covering to protect them from perishing by severe frost. In a natural state they are scattered on the surface, and they can be observed perfectly sound, and commencing germination as soon as the weather is sufficiently warm. The seeds are by no means particular as to soil, for I have seen them germinate freely in gravel walks.

Few bulbs surpass this Scilla when in flower, the colour is charming, especially when the older blossoms are fading or have changed to a lighter shade of blue than the younger ones. The contrast is admirable, and at the same time the lighter flowers add to the intensity of colour in the younger ones. It is at home in the shade, or in the sun, and in all intermediate positions; but in the shade the flowers are later, and form a good succession to those planted in sunny spots; they also retain their deep blue colour for a much greater length of time. It may be planted with advantage in any position in which the Crocus or Snowdrop will flourish. Until a few years ago I had concluded that Scilla siberica displayed itself to the best advantage when planted in masses, but this is not the case, for the flowers of a few solitary bulbs rising above a dense carpet of moss are charming. It is very suitable for the rockery, whether composed of alpine plants or hardy Ferns. It is lovely in the latter, and is not injured by the Ferns, but it brightens such positions greatly when otherwise they would seldom be visited at that season of the year.

If the bulbs are planted on the top of a sloping rockwork, it will in a very few years be one mass of these bulbs. The Scilla must always be planted where it can remain, and increase in its own natural manner. We generally plant too thickly, with the object of an immediate effect. Those not particular in this respect should plant the bulbs thinly. The ground should be kept free from weeds, and a little light soil scattered over the bed in autumn to replace that carried away by weeding and cleaning. The bed will soon become a mass by the seed that will be naturally sown annually. If they are planted in small clumps, and the spade and fork are kept away from them, they will quickly form good-sized patches. The Scilla can be planted with good effect amongst grass, but it must be remembered that this plant retains its foliage for a considerable time longer than the Crocus.

For cultivation in pots this Scilla is very suitable, and perhaps more useful than either the Snowdrop or the Crocus. In effective groups, or the front row of conservatories, it would be difficult to find a plant with which it could be compared for beauty and richness of colour. Its flowers are of the exact colour we frequently require at that season, and if well grown cannot fail to be admired. The Scilla looks best perhaps in 5-inch pots, the pots being filled with bulbs and just covered with soil. It will do well in any light sandy compost. The bulbs cannot be obtained as early as the Snowdrop and Crocus, but they should be potted directly they can be had, and plunged under a few inches of ashes until they have filled their pots with roots. They may then be removed to a cold frame, watered if they need it, and the surface covered with cocoanut fibre refuse, so that the top growth is just covered as well. They will continue growing in this position until severe weather commences, when they should be taken to any structure where the temperature will range about 45°. In this structure they may remain until they commence flowering. Heat will ruin them; they must advance gradually, almost naturally. The extra heat they would receive from the sun in such a structure would do them no harm. If the pots are kept the second year flowers are had earlier than from newly imported bulbs potted for the purpose.—WM. BARDNEY.

## FRUIT AT AUTUMN SHOWS.

THERE is now a considerable array of fruit at most of the Chrysanthemum Shows, this, as far as the majority of professional gardeners are concerned, being quite as attractive as the more showy "mums." Grapes are frequently quite a feature in the displays, and a capital lot of bunches are shown for comparatively small prizes. Bristol is the only schedule I have yet seen where classes are provided for nearly every late Grape in cultivation, and it is a pity this example is not more generally followed. When special prizes are provided for two bunches each of Alicante, Lady Downe's, Gros Colman, Black Hamburgh, Mrs. Pince, any other black variety, Muscat of Alexandria, and any other white variety, there is a good opening for a far greater number of growers than is the case when prizes are offered for collections only, and as a



consequence the competition is much more keen. Five classes are also provided for different varieties of Grapes at Reading, while the Southampton, Birmingham, and Liverpool schedules are fairly comprehensive. When there are not more than two, or at the most three classes for Grapes, exhibitors are at a loss what to stage, and judges scarcely know how to decide. Supposing there is only one class for black Grapes, then Gros Colman, if shown in superior condition, must win. Alicante, no matter how well it may be shown, should take a back place, for the simple reason that it is not particularly high class, or no more so than Gros Colman, and it certainly is the easiest to finish properly; while Lady Downe's, though superior to both in point of quality, is very rarely indeed shown heavy enough to win first honours against all comers. If, therefore, I stage either Alicante or Lady Downe's against first-class Gros Colman, I shall expect to be beaten, and so must other competitors. If Mrs. Pince could be shown at its best, then ought that high-class variety to be put first. Gros Guillaume, Gros Maroc, and Alnwick Seedling are all variously shown in the any other black class, but the former is the most superior in point of flavour, and if shown well coloured should win. Lady Downe's is very frequently shown in the any other black class, and if really good is hard to beat. When we come to the white Grapes matters are more simplified. Muscat of Alexandria shown in a fairly good condition is bound to be first, the next best being Mrs. Pearson. If, therefore, there is a class for any other white Grape, that is a good opening for Mrs. Pearson, Trebbiano and Calabrian Raisin being coarser varieties, and not often seen well coloured. I have frequently shown Golden Queen in the any other white class, but owing to its muddy appearance, which seems to get worse by the time it arrives at a show, it takes prizes on sufferance only, that is to say, when competition is slack. Exhibitors, especially novices, should use more judgment when selecting their Grapes for competition. Too often the largest bunches are selected without due regard being paid to other conditions. I have made the same mistake more than once, only to find that smaller bunches with larger berries, other conditions being equal, were preferred by the judges. There ought to be a marked evenness and cleanness of berries, the removal of a few stoneless or rather small berries greatly improving the appearance of some bunches, and the bloom and colour ought to be as near perfect as possible. Unless these conditions are observed it is useless to compete at many of the leading shows, as it is only the very best of everything that wins prizes nowadays.

Collections of fruit, exclusive of Pine Apples, are provided for at Bristol, Bath, Reading, and a few other shows, and these are usually fairly well shown. A model collection of six dishes would consist of good Alicante or Gros Colman, and either Muscat of Alexandria or Mrs. Pearson Grapes, a Melon, either Marie Louise or Doyenné du Comice Pears, Salwey Peach, and Coe's Golden Drop Plum. Both the latter ought to be available this season, but if not, then a good dish of Cox's Orange Pippin, King of the Pippins, or Ribston Pippin Apples and Medlars would be good substitutes. Medlars, however, are very late this year, and in any case I would prefer Bananas. In some instances two varieties of Pears or Apples are allowed, and this admits of more competing than would otherwise be the case.

It is, however, in the Pear and Apple classes that the strongest competition takes place, the displays at Bath, Bristol, Exeter, and Tiverton being far above the average, and worthy of more notice being taken of them than the much crowded state of the horticultural journals permit. At the first two places collections are principally shown, but at Exeter, in addition to collections, classes are also provided for single dishes of all the best varieties in season, and a most interesting and highly instructive competition invariably results. Not a little in every case depends upon the judgment used in selecting the dishes of the respective varieties, and it is here where the old hands have the advantage. Mere size is not everything. To be certain of winning a prize the fruit must all be as near alike as peas in a pod; size, form, and colour all being studied. One extra large fruit quite dwarfs the rest, therefore let them match as much as possible. Although ripeness is not necessary in all cases, I am yet of opinion that ripe or well coloured fruits gain a point, though wrongly so, perhaps, over green samples, and would advise forwarding in gentle heat many of the late varieties shown in collections in October and early in November. There are two Pears—viz., Marie Louise and Doyenné du Comice, that far surpass all others in point of quality, and when shown at their best ought not to be passed over in favour of the largest fruit of Pit maston Duchess ever shown. When tasting is practised they are bound to win; sometimes one and sometimes the other being preferred, according to the taste of the judges. Beurré Diel, Pit maston Duchess, Duchesse d'Angoulême, Maréchal de Cour, Beurré Bachelier, Doyenné Boussoch, Brockworth Park, Chaumontel, Louise Bonne of Jersey, Huyshe's Prince Consort, Glou Morceau, Easter Beurré, Napoleon, Beurré Bosc, Hacon's Incom-

parable, and such like, are all suitable for collections, and if there is a class for stewing Pears, let General Todtleben, Catillac, and Vicar of Winkfield find a place rather than the dessert sorts. Always stage the heaviest stewing Pears, but let them match well.

Apples are even more numerous shown than Pears, and a remarkably pretty lot of fruit are to be seen at the principal south-western shows already mentioned. Much that has been advanced, as regards selecting, concerning Pears, also applies with equal force to both dessert and culinary Apples. The former ought especially to be as highly coloured as possible, the dull or green varieties being shown in large collections only. They must all be of near one size, and although large Apples are not preferred on the dining table, it is yet advisable to have them of full size for exhibition, always excepting Blenheim Pippin and Peasgood's Nonesuch, both of which are admissible as dessert varieties, and should be of a size and colour to match the rest. What may appear rather large at home dwindle down, that is to say quickly find their level, directly they are staged. As far as a single dish of any variety of dessert Apples is concerned there are none that can possibly equal Cox's Orange Pippin, and this whether the judges taste the fruit or not. It is altogether a model variety, and if kept clear of musty straw, hay, or other contaminating substances is of the best possible quality. Ribston Pippin at its best is a fairly strong opponent, Blenheim Pippin not unfrequently figuring well. These three, King of the Pippins, Margil, and Gravenstein, would be an excellent selection of six dishes, Worcester Pearmain, Braddick's Nonpareil, and Cornish Gilliflower being good reserves. The first prize for a single dish of culinary Apples used at one time to fall to extra fine samples of Blenheim Pippin, but of late years Peasgood's Nonesuch has come to the front. With these two out of the way Warner's King has a good chance, Mère de Ménage, extra good, being a formidable rival. Other good varieties well suited for collections are Stirling Castle, Emperor Alexander, Golden Noble, Cellini, Cox's Pomona, Bismarck, Ecklinville, Kentish Pippin, Prince Albert, Dumelow's Seedling, Royal Somerset, Reinette du Canada, and Tom Putt. By all means let them be of full size, but not large and unshapely; and once more let me add, they must match one another as nearly as possible. Leave those with blemishes of any kind at home, as these cannot be hid from good judges.—W. IGGULDEN.



#### CHRYSANTHEMUM SHOWS.

THE following are the dates of the chief Chrysanthemum Exhibitions to be held during the coming month.

Tuesday, Nov. 3rd.—Pembrokeshire.

Tuesday and Wednesday, Nov. 3rd and 4th.—Brighton, Ipswich, Kent County, Beddington, and Watford.

Wednesday, Nov. 4th.—Dorking and District.

Wednesday and Thursday, Nov. 4th and 5th.—Dalston and District.

Wednesday, Thursday, and Friday, Nov. 4th, 5th, and 6th.—Portsmouth and Ascot (two days). Thursday, Nov. 5th.—Chiswick.

Friday and Saturday, Nov. 6th and 7th.—Crystal Palace, Sydenham.

Monday, Nov. 9th.—St. Neots. Tuesday, Nov. 10th.—East Grinstead.

Tuesday and Wednesday, Nov. 10th and 11th.—Kingston-on-Thames, Horsham, Leeds, and South London.

Tuesday, Wednesday, and Thursday, Nov. 10th, 11th, and 12th.—National Chrysanthemum Society, Royal Aquarium, Westminster.

Wednesday and Thursday, Nov. 11th and 12th.—Birmingham, Bournemouth, Northampton, Swansea, and Croydon.

Thursday and Friday, Nov. 12th and 13th.—Teddington, Wimbledon, and Ware.

Thursday, Friday, and Saturday, Nov. 12th, 13th and 14th.—Pelfast.

Friday, Nov. 13th.—Cheshunt and Hitchin.

Friday and Saturday, Nov. 13th and 14th.—Eccles, Leicester, Sheffield, Tooting, and Monmouth.

Tuesday and Wednesday, Nov. 17th and 18th.—Liverpool, Twickenham,

Wednesday and Thursday, Nov. 18th and 19th.—Spalding. [and Diss.

Wednesday and Thursday, Nov. 18th and 19th.—Hull and Rugby.

Wednesday, Thursday, and Friday, Nov. 18th, 19th, and 20th.—York.

Thursday, Nov. 19th.—Wantage.

Friday and Saturday, Nov. 20th and 21st.—Stirling, Chorley, Bolton, and Stockport. Saturday, Nov. 21st.—Batley.

#### EXHIBITION CHRYSANTHEMUMS.

IN working out the subjoined analysis of last year's show season I have been much struck by the copiousness of the reporting, one variety having been honourably mentioned as first prize winner over, and another just under, one hundred times—a long way the best result achieved since I have kept any record.



Among incurved Mrs. S. Coleman was the only new comer of note; but though standing well for the first season, it occupied a very inferior position to that attained by Miss M. A. Haggas, or even Miss Violet Tomlin when first exhibited. Both appeared in 1889, and have during another year of show existence still further enhanced their reputation as prize winners—the former standing second, and the latter fifth in the list. Before passing to the consideration of other matters, I would like to inquire how it comes about that though this now well-known variety, Miss Haggas, was introduced as recently as 1888, there is no mention of the raiser's name in the last edition of the N.C.S. Catalogue?

Princess of Teck, Refulgence, Novelty, Bronze Queen (John Doughty), Baron Beust, and Eve, all occupy the same position as in the previous season's list, Baron Beust having retained the thirty-first place three years in succession. Those martial spirits, Jeanne d'Are and Lord Wolseley, have exactly exchanged places, while Mr. G. Glenny and Mrs. Dixon reappear after two years' absence. Some few varieties—Mrs. Heale, Charles Gibson (Lady Dorothy), Lord Eversley, and others, for instance—seem slowly creeping upward, but will never attain the front rank. Perhaps it may be well to explain here that varieties bracketed together are declared by the N.C.S. Committee to be inadmissible as distinct.

Among Japanese Etoile de Lyon leads easily with the prodigious record of 106 first prizes, excluding duplicates, while Avalanche, though reported nearly twice as often as in 1889, was unable to repeat its success of that year, and achieve premier honours against so formidable a rival. Sunflower, however, did well, and went up five places; Stanstead White

doing proportionally, even better, by rising eleven; but Mr. Ralph Brocklebank experienced a heavy fall, and Edwin Molyneux was unable to recover the position lost in 1889. We may therefore conclude that there is little likelihood of either ever obtaining pride of place; on the contrary, they will gradually fall more and more out of the running until their disappearance from the list, a fate which must also, even sooner, overtake those once successful veterans Madame C. Audiguier and Jeanne Délaux; indeed, it is becoming increasingly evident that the older Japanese cannot stand against those of more recent introduction, and are slowly but surely being beaten out of the field of competition by the three and four-year-olds. This fact is established by the great success of Mons. Bernard, Sarah Owen, Condor, Stanstead Surprise, Mrs. F. Jameson, Lady Trevor Lawrence, &c., in their second season.

Of varieties appearing for the first time Mrs. C. W. Wheeler is the most conspicuous, Puritan, W. W. Coles, and Volunteer being likely to better themselves considerably during the season which is now fast approaching. As showing how much more frequent are changes in this section than among incurved, it may be noted that Edwin Molyneux and Mr. H. Cannell are the only two which occupy the same position as in 1889.

The prize lists of 1890 seem tame by comparison with those of the previous year, when so many new and magnificent varieties carried all before them at the leading shows. Whether the forthcoming season will be more exciting, or reveal the existence of any novelties capable of ousting the leaders in either class, remains to be seen; the probabilities, however, hardly warrant such a supposition.—B. D. K.

### FIRST FIFTY PRIZEWINNERS OF 1890.

Position in					INCURVED.	No. of Prizes.
1886	1887	1888	1889	1890		
7	2	4	1	1	Lord Alcester .....	92
—	—	—	10	2	Miss M. A. Haggas .....	86
2	4	2	4	3	Golden Empress .....	83
1	1	1	2	4	Empress of India .....	81
—	—	—	15	5	Miss Violet Tomlin .....	77
4	11	8	7	6	Princess of Wales .....	75
6	5	3	3	7	Queen of England .....	72
3	6	5	9	8	Lord Wolseley .....	64
5	3	6	8	9	Jeanne d'Are .....	63
13	15	10	6	10	{ Emily Dale (23) .....	60
17	18	14	12	11	{ Golden Queen (23) .....	
8	10	9	18	12	{ John Lambert (14) .....	
16	7	7	5	13	Mrs. Heale .....	59
12	19	19	14	14	Prince Alfred .....	51
18	13	17	11	15	Alfred Salter .....	49
—	—	36	29	16	Princess of Teck .....	46
9	8	12	13	17	Barbara .....	37
19	9	30	20	18	{ Charles Gibson (15) .....	37
—	—	—	—	19	{ Lady Dorothy (22) .....	
36	17	25	21	20	John Salter .....	35
20	22	13	17	21	Hero of Stoke Newington .....	33
15	14	15	16	22	Mrs. S. Coleman .....	33
11	23	20	22	23	Empress Eugénie .....	32
25	21	26	24	24	Mrs. W. Shipman .....	26
35	35	28	19	25	Lady Hardinge .....	25
10	12	11	23	26	Nil Desperandum .....	24
—	31	27	28	27	Refulgence .....	24
28	24	23	25	28	Mr. Brunlees .....	23
14	20	21	26	29	Jardin des Plantes .....	22
—	23	16	30	30	Mrs. N. Davis .....	22
24	41	31	31	31	Princess Beatrice .....	22
37	26	37	32	32	Cherub .....	16
—	—	41	39	33	{ Bronze Queen (5) .....	16
39	27	38	33	34	{ John Doughty (11) .....	
21	16	13	27	35	Baron Beust .....	10
29	25	32	36	36	Eve .....	10
22	32	39	40	37	Lord Eversley .....	8
40	33	29	37	38	Mabel Ward .....	8
—	—	—	—	39	Mr. Bunn .....	8
23	40	22	34	40	Novelty .....	8
38	44	35	35	41	Prince of Wales .....	8
30	38	—	—	42	Beauty .....	7
27	31	—	—	43	Alfred Lyne .....	6
31	39	—	48	44	White Venus .....	6
33	—	24	—	45	Guernsey Nugget .....	5
45	43	43	43	46	Mr. George Glenny .....	4
34	37	29	—	47	Mrs. Dixon .....	4
—	—	49	42	48	Mrs. G. Rundle .....	4
—	—	—	—	49	Venus .....	4
—	—	—	49	50	Bronze Jardin .....	3
—	—	—	—	—	Beverley .....	3
—	—	—	—	—	Antonelli .....	2
—	—	—	—	—	Miss Mary Morgan .....	2
—	—	—	—	—	Perle Précieuse .....	2



## FIRST FIFTY PRIZEWINNERS OF 1890.

Position in					JAPANESE.	No. of prizes
1886	1887	1888	1889	1890		
—	—	—	17	1	Etoile de Lyon .....	106
—	47	15	1	2	Avalanche.....	99
—	—	—	8	3	Sunflower .....	97
—	44	2	4	4	Edwin Molyneux .....	96
—	—	36	14	5	Stanstead White .....	64
—	15	6	2	6	Mr. Ralph Brocklebank .....	59
—	—	—	26	7	Mons. Bernard.....	58
2	1	1	6	8	Madame C. Audiguier .....	57
—	—	22	10	9	Madame Baco .....	47
—	—	—	18	10	Sarah Owen .....	46
41	32	13	13	11	Gloriosum .....	45
8	7	3	9	12	Val d'Andorre .....	44
1	3	5	5	13	Jeanne Délaux .....	42
7	8	4	3	14	Boule d'Or .....	41
35	14	14	12	15	Madame J. Laing .....	38
—	—	—	32	16	Condor .....	36
14	2	7	19	17	Belle Paule .....	35
—	—	—	43	18	Stanstead Surprise .....	35
10	4	9	7	19	Meg Merrillies .....	32
—	—	—	—	20	*Mrs. C. W. Wheeler .....	31
—	—	—	48	21	Mrs. Faleoner Jameson .....	31
18	12	11	20	22	Baronne de Prailly .....	27
—	—	—	37	23	Lady Trevor Lawrence .....	27
—	38	20	16	24	Carew Underwood .....	26
13	11	8	21	25	Criterion .....	26
6	19	25	11	26	Japonaise .....	26
—	—	45	27	27	Mr. H. Cannell .....	23
—	—	30	25	28	Mrs. J. Wright .....	22
9	10	18	23	29	Thunberg .....	21
22	20	17	38	30	Yellow Dragon .....	21
3	6	10	15	31	Mdlle. Lacroix .....	20
4	13	24	35	32	Comte de Germiny .....	18
—	—	41	49	33	Mrs. H. Cannell .....	18
17	21	16	31	34	Marguerite Marrouch .....	17
5	9	12	22	35	Fair Maid of Guernsey .....	16
27	22	27	41	36	Maiden's Blush .....	16
—	—	—	39	37	Marsa .....	16
—	—	26	34	38	Mons. J. M. Pigny .....	16
—	—	—	29	39	George Daniells .....	15
—	—	—	—	40	Puritan .....	15
—	—	—	—	41	W. W. Coles .....	13
—	—	42	44	42	Album Fimbriatum .....	12
—	—	—	—	43	*Volunteer .....	12
—	—	—	—	44	Mons. H. Elliott .....	11
11	5	—	28	45	Triomphe de la Rue des Châlets .....	10
—	—	—	—	46	†W. G. Drover .....	10
—	—	—	—	47	*Charlie Sharman .....	10
16	17	19	45	48	Elaine .....	9
—	—	38	36	49	Florence Percy .....	9
—	—	—	42	50	Pelican .....	9

\* Two prizes in 1889.

† Three prizes in 1888, four in 1889.

## LOUIS BOEHMER.

MANY of us have been disgusted with Mrs. Alpheus Hardy, and no wonder, for it is one of the worst growers I ever had to deal with. The way it has been spoken of quite justly may have a tendency to act against the newer thorny petalled sort Louis Boehmer. Let no one be prejudiced against the latter, for it is a most excellent plant. Last season I saw one bloom of it, but it was a pity to have shown such a flower, as it by no means represented its merits. I shall perhaps say something on it again, but think this early opportunity should not be lost of calling the attention to its novel and beautiful character.

I have this day (October 23rd) been over to Messrs. Carter's nursery at this place, where they have about three dozen plants just coming into full bloom. They are not quite fully out yet, so there will be an opportunity for anyone to see them who should wish for the next fortnight or three weeks, which will at once demonstrate to any beholder the fine variety it is. These plants were about 4 feet high, and the flowers when only partly out are 7 inches across. When we hear of and see some of the flowers which obtain certificates we little know the extraordinary culture that has been bestowed on the plants, but here is a sort that anyone can easily grow. From the time the cuttings are inserted till they bloom they grow away like the good plants they are. I have now plants from cuttings inserted on the 25th of April, just coming into bloom, and they are only 3 feet high. Messrs. Carter's plants are 4 feet high, which is probably its average stature. It is not only of this moderate height, but it is fairly stout, with excellent foliage. Altogether it seems a famous variety. I may mention for any person who may come from London that Messrs. Carter's nursery is

about fifteen minutes' walk from the Forest Hill Station, L.B. & S.C.R. The Exhibition is, of course, free.—W. PIERCY.

## THE WALKER CHRYSANTHEMUM TUBE.

So many different methods have been devised for elevating and depressing Chrysanthemum blooms on stands for exhibition that it might be thought there was scarcely room for another, distinct in character and efficient. The ingenuity of Dr. George Walker, the well-known amateur florist of Wimbledon, has, however, asserted itself, and he sends us a tube which is the essence of simplicity. The appliance consists of a thin circular tin plate, about 2 inches in diameter, with an oval hole. This plate is fixed to the board and the tube passed through it; in fact, it falls through the longest diameter, but when given a twist either to the right or left a piece of wire soldered on one side bites against the edge of the plate, and the bloom is fixed at the height required. This can be done either by a twist above or under the board as quickly as any person could say "Walker," and as quickly released. Dr. Walker prides himself on the economy, simplicity, and efficiency of his appliance, which he is now advertising, in the belief that it will find favour with exhibitors.

## CHRYSANTHEMUMS AT MAIDENHEAD.

MR. ROBERT OWEN of the Castle Hill Nursery has this season some magnificent plants, including 1000 seedlings of this year's raising, and the same number grown from promising seedlings of last year. The seedlings raised this year are equally as strong as the propagated plants, and include many of a good dwarf habit from which choice novelties



may be expected. The general condition of the plants is of the best, and several new houses have been recently erected for their reception. —H.

#### CHRYSANTHEMUMS IN THE SOUTH.

DURING a stay recently in the county of Hants I had an invitation to drive around a few of the principal "Mum" growing gardens in the southern part of the county, and as that locality in which I was staying has of late years become somewhat noted for large blooms, and as I was somewhat anxious to see what are the prospects for the coming season I readily accepted the invite, and spent several pleasant hours. It was plain to be seen that the "fever" has attained already to a high pitch. The chances of this exhibitor and that grower were largely discussed during the ramble. I have much pleasure in jotting down a few notes collected in a rough manner, but as I have myself a weakness for the autumn queen I find the aid of a good memory is a useful adjunct to a sparsely filled note-book. By-the-by, is not Hampshire rather a noted county for exhibition blooms, and specimens, too, for the matter of that? I remember some few years ago feasting my eyes on some specimens at the Southampton Autumn Show which I thought extra fine. One plant of Dr. Sharpe I shall never forget. This was "caught" just right to the day in point of colour, and what other variety, I wonder, excels this when in that state? The specimen in question could not have had less than 150 blooms on it—aye, and all of passing quality too. I fancy I hear someone saying, "We do not want to hear anything about Dr. Sharpe. It is no use for 'covering the board.' We want to know how the Centenary champions, Messrs. Drover, are 'looking,' and how the Molyneux's are 'shaping,'" so I will get to business. If what I saw during that tour is a criterion to go by, I should say the coming season is likely to be up to the average, in spite of the damp sunless season. The plants on the whole have a good appearance, are rather under the average height if anything, and full of promise for quality when the proper time comes.

The nurseries at Fareham are now well known as belonging to the brothers, Messrs. W. & G. Drover. The number of plants they cultivate are bad to judge when seeing them "packed" away so close as they are in two very long lean-to houses, which are used during the summer time for Roses and Cucumbers, but certainly they do not grow less than 700; and as they appear to confine their attention to Japanese and incurved varieties it gives them a greater scope in the exhibitions. The plants are not remarkable for the extra size of their stems, but they are for the quality of the foliage, which is of that stout character which betokens, not gross immature growth so productive of deformed blooms, but of those remarkable for depth and solidity. The buds appear "kind," and on the whole well "timed." Such as the Queen, the Princess, the Teck, and the Alfred families were looking as well as could be wished. Such well known sorts as Edwin Molyneux, Condor, Stanstead White, Sunflower, Comte de Germiny, and Avalanche were most promising. Louis Boehmer and Mrs. Alpheus Hardy will give blooms worthy of these two novelties.

Amongst new varieties William Tucker stands out quite unique in point of colour, which is simply silvery rose; the flower is large, but would by many be voted "rough," resembling Mrs. Frank Thompson too much, Japanese incurved, the points of the petals being forked or serrated and folding unevenly; the form is the only drawback to an otherwise handsome flower. Secrétaire G. Cassagneau, one of Délaux's introducing, is a promising Japanese, white shaded pink and lilac. M. H. de Fortannier, Japanese, purple shaded claret, reflexed type, full flower. M. Jules Humbert is also a new Japanese variety of promising appearance, violet amaranth, reverse silvery white. It was rather early to judge of new incurved varieties; the only two advancing were Robert Cannell and M. R. Bahuant. The latter is very similar in growth to the "Queen" family, the petals are broad and neatly incurving, but whether it will come deep enough to take a foremost place remains to be seen; the colour is carmine rose.

#### ROOKSBURY PARK.

This, the residence of J. C. Garnier, Esq., has lately sprung into prominence in the Chrysanthemum world. Mr. N. Molyneux is, I learned, a brother to the well known Swanmore gardener of that name. The number of plants cannot fall short of 600; they are full of promise, having a hard look which betokens quality rather than mere size. Most of them are neatly arranged in a long, low Peach house, which affords them ample light. The "Queens" struck me as being especially good, the tallest not more than 6 feet high and the dwarfest about 5 feet, wonderfully even were they altogether. Varieties like Princess of Wales, Mrs. S. Coleman, Barbara, Cherub, and Miss M. Haggas, and others too numerous to mention, give abundant promise. Many newer varieties are being tried apparently. The following are of continental origin and belong to the incurved section. It is yet too early to decide on their merits, but I fancy some will not be required at the end of the season judging by their present appearance. Mdme. F. Mistral reminds one of Refulgence both in habit of growth and colour of the flower. Madame Mante was more like L'Adorable in its formation, but the flower I saw being from an early bud is liable to great variation in form. Manders, rosy white; Marie Pierre, Louis Blancard, Mdme. Dairrier, Mdme. Bonsignour, best described by saying it is a bad Pink Venus; Annie Hoste, of the style of Cherub in every respect but quality. M. Bahuant is promising to incurve neatly. Japanese are largely represented by promising buds of Etoile de Lyon, Mrs. Falconer Jameson, W. W. Coles, Sunflower, Stanstead White, Pelican, and Condor. Newer varieties belonging to this section, and which promise

well, are Anna Hartzhorn, a pure white incurved Japanese; Mrs. Irving Clark, the outer part of the petals pink, inside lilac, a large flower; Mr. Frank Clinton, a pale yellow sport from Lady Lawrence, which ought to be an acquisition; Louis Boehmer is developing good blooms freely; Aida, narrow petals, bronze and yellow; Coronet, golden orange; E. G. Hill, bright golden yellow; Kioto, Thunberg style of flower, and W. H. Lincoln.

#### SWANMORE PARK.

New varieties are largely grown there, as well as several hundred plants of the older favourites. Capital plants in small pots of single, Pompon, and Anemone Pompon varieties are grown, and from their present appearance cannot fail to make a bright and pleasing display later on. In the incurved section the whole "Queen" family have not grown higher than 5 feet, many only 4 feet, which is especially dwarf for that type. Even so low the plants give promise of developing clean blooms, which remark also applies to Princess of Wales, Miss M. Haggas, Cherub, Lady Hardinge, and Prince Alfred. The new French incurved M. R. Bahuant was here in better condition than anywhere else in our tour. The pink striped Queen of England at present remains true to its sportive character; if it continues steadfast it will be a novelty certainly. Amongst the new Japanese Mohawk, crimson maroon, had extra fat buds, auguring well for the future. Louis Boehmer seems everywhere good this year. Mrs. A. Hardy was unfolding its florets in a clean satisfactory manner. Gloire de Rocher, a seedling from Val d'Andorre, orange amber flushed with crimson, varies considerably in height; here it is not more than 3 feet, with others it runs up over 6 feet. Madame Mezzard, white striped delicate rose, opening like Etoile de Lyon, the habit very low. Césaire Costa, poppy red or purple crimson, has long fluted petals, promises to be a good addition to the Japanese class. James R. Pitcher, delicate blush, reflexed Japanese, dwarf growth. Many new kinds were on trial, both incurved and Japanese, and from their present appearance will be heard of later on. Chrysanthemums on walls out of doors are given some attention, and judging from what I saw of them will repay the labour expended on them by a good display of blooms when the bulk of the indoor plants are over.—NORTHERNER.

#### HARDY FLOWERS AT THE ROYAL BOTANICAL GARDENS, MANCHESTER.

THE name of Mr. Bruce Findlay is a "household word" among horticulturists, and I was much pleased when a recent visit to Lancashire enabled me to see the Manchester Royal Botanical Gardens, so ably managed by him as Curator. To my disappointment Mr. Findlay was engaged as judge at a flower show the only day convenient for my visit, and I only saw him for a few minutes previous to my departure. He had, however, very kindly placed me under the charge of Mr. Paul, than whom I could wish for no more competent or obliging guide. As Mr. Findlay informed me previous to my visit, the collection of hardy flowers is not a large one, but all the same I found a good deal to interest me, and I was highly delighted with the Gardens as a whole. As usual in botanical gardens the hardy flowers are arranged, as a rule, according to their natural orders, and, as in all other gardens of a similar kind, there are many plants of no value from a garden point of view. I am rather disposed to agree with those who contend that such plants should be relegated to the herbarium, and only those which are of decorative value grown. There is, however, something to be said on the other side, and I do not feel disposed to quarrel with those who support it. Those of us who grow alpine in quantity may in this matter be careful how we speak, lest we should be accused of living in the proverbial glass houses, and be warned that we should not throw stones.

I feel particularly timorous that in mentioning one of the flowers which I admired a good deal it may be said that it is not of "decorative" value, and that the less said about it the better. Tastes differ, and in admiring *Gratiola officinalis* of Gerard I was glad to find I was not singular in my admiration. I had not seen the plant before, nor can I see it in any catalogues, and I have been at some trouble to find anything about it, not being so fortunate as to possess Gerard's or Parkinson's Herbars. This plant is not the *Gratiola officinalis* of the "Cottage Gardener's Dictionary," nor is it in Maund's "Botanic Garden," where a congener *G. aurea* is figured. It does not seem to be in the edition of "Hortus Cantabrigiensis," edited by Pursch. Joseph Miller, however, in his "Botanicum Officinale," published in 1722, gives a description of the plant which is so clear that I quote it in full. He says:—"Hedge Hyssop is but a small plant, having slender creeping roots, from which spring several square stalks scarce a foot high, with two long narrow sharp-pointed leaves, like common Hyssop, set at every joint, among which come forth the flowers on short footstalks, one at a joint, being small, long, and hollow, not much unlike the flowers of Foxglove in shape, divided at the end into four segments, of a pale yellow colour." He states that it is a native of the Alps and other mountainous countries, and gives Parkinson's name as *G. vulgaris*, "the true Hedge Hyssop," and Bauhin's name as *G. centauroides*, "Hedge Hyssop with Centaury leaves." I cannot discover this *Gratiola* in Philip Miller's "Gardener's Dictionary," and I should be glad to ascertain more about the plant and its whereabouts, as it is worth growing, and its late flowering habit would make it valuable in many gardens and on many rockeries. It was rather past its best when I saw it, but was very pleasing.



Another plant in which I was considerably interested was a dwarf erect purple-flowered *Linaria*. This was unnamed, but I heard an opinion from a good botanist that the plant was *L. Pellissieriana*, which is said, however, to be an annual, while this plant is perennial. It must be observed that some plants named in our gardening and botanical works as annuals prove to be true perennials in many soils. This *Linaria* is apparently a very desirable plant.

Several *Statice*s were grown, among the best of these in flower being *S. dahurica*, pink and white, and growing about 14 inches in height. Other good kinds were *S. Gmelini* and *S. echioides*. *Veronica*s seemed pretty well represented, one which attracted my attention being *V. Michauxi*, a fine plant with a long spike of blue flowers. This seems to have been introduced in 1834, and is probably a native of North America. I had never met with this before, but was much pleased with this member of a family possessing great value for garden purposes. A good plant, too, was to be found in the typical *V. virginica*, of which I had seen the white variety in Mr. Wolley Dod's garden the previous week. Another good *Veronica* is named in Manchester *rubicunda*. I have had this in my garden for rather over a year without name, and several fruitless efforts have been made to find a name for it, and I was glad to have this supplied. I do not know the authority for the name, but the specific title is fairly descriptive of the pinkish tint of this pretty plant, which grows about 18 inches in height in my garden. *V. amethystina*, and several others, were also very pretty.

I was too late in the season to see some of the *Scabiosas* and *Cephalarias*, but what appeared a fine plant of imposing appearance was *Cephalaria leucantha*, a native of the south of Europe, which I see was introduced in 1739. It was past its best, but seemed very like one grown in this neighbourhood under the name of *Cephalaria tatarica* or *Scabiosa elata*, but scarcely so robust in habit nor so large in the heads of flower. When in good condition *C. tatarica* is a fine plant for the back row of a wide border. Another species of similar habit, but dwarfer and smaller in the foliage, was grown as *Scabiosa centaurioides*.

A plant new to me was that named *Hieracium calendulæfolium*, a yellow flowered Hawkweed, which is worthy of attention from those who take an interest in this rather "weedy" genus of plants. Several *Asters* were in flower, but none of particular interest, and in the present condition of affairs as to the nomenclature of this genus one is unwilling to say much about the plants; one, however, named *A. corymbosus* was quite distinct from that grown by Mr. Wolley Dod under that name, and which I have every reason to believe is correct. Mr. Wolley Dod's plant is white with blackish stems, and the Manchester *corymbosus* is purple. Some *Helianthus*es, but not of special interest, were also in flower. A neat little *Chrysanthemum* species, *C. arcticum*, of somewhat slender habit, with pretty blush flowers, was also in flower. There seems to be some confusion in nurseries between *C. arcticum* and one sent out under the name of *C. arcticum*, which latter seems of more robust habit and whiter in flower than the former.

A pretty *Liatris*, known as *L. pumila*, was also in flower, and is worth growing by those fond of this genus, many of the plants in which seem very similar in appearance. *L. pumila* is, as its name would indicate, dwarfer in habit than the others in cultivation. Many other plants in or out of flower must be left unnoticed, and, as was to be expected at that season, there was not much in flower on the rockeries. Among other things were good plants of *Saxifraga paradoxa* (true), *S. majalis*, and a number of others of the various sections of these pretty and interesting plants. *Salix serpyllifolia*, one of the dwarf creeping Willows now attracting some attention from alpine growers, was also in quantity, and among many other plants were *Rodgersia podophylla*, *Aralia racemosa*, *Rhus toxicodendron*, *Phlox canadensis*, *Alyssum spinosum*, and *Anthyllis montana*. In one of the houses was a fine plant of *Symphandra pendula* in beautiful bloom, and making a good pot plant. In the same house was *Eucomis punctata* in flower. This is quite hardy with me, but makes a very interesting and uncommon plant when grown in a pot.

In one of the houses known as the corridor, and which has to be cleared occasionally for flower shows, a very large number of plants of *Francoa ramosa* were planted out, and the fine spikes of this beautiful flower were seen to great advantage among the other plants in the fine structure. Several good arrangements of bedding and other plants were to be seen in the gardens. Unfortunately the *Gladioli*, as in most other places I saw while away, were not doing well on account of the unfavourable season. Of the many interesting and beautifully grown stove and greenhouse plants I do not feel competent to speak. It was, however, a great pleasure to go through the establishment with Mr. Paul, who is so well acquainted with the plants under his charge. The fernery is a most attractive part of the institution, but where there are so many things of interest and beauty with which I have so little acquaintance it will, perhaps, suffice to say that the gardens are silent yet effective witnesses of the skill of those in charge. Despite the unfavourable season, they were bright, and in the highest degree attractive, and I was much surprised to learn that this noble establishment is not in receipt of any Government or Corporation grant. It speaks volumes for the energy and ability of Mr. Findlay and the management in general that the gardens are so well maintained. The people of Manchester have good reason to be proud of their Botanical Gardens, and it is to be hoped that in these days of grants for technical and scientific education, it will not be forgotten that this institution exists, and that its benefits might be extended were more pecuniary support available. I have to express my thanks to Mr. Bruce Findlay and Mr. Paul for their great courtesy and kindness.—S. ARNOTT.



ORCHIDS AT TRANBY CROFT.

I SEND you a note of a few Orchids I saw at Tranby Croft on the 17th of this month. The most striking example in the house was a magnificent spike of that somewhat rare variety *Cattleya aurea*. The blooms were large and well developed; the sepals are about 3 inches long, and of a creamy yellow colour; the lip is broad, tipped with deep magenta, whilst the throat is a marvellous combination of magenta and orange stripes. It is a fine variety, and in my mind well worth cultivating. There were also several good spikes of *C. insigne* Maulei, *Oncidium Forbesi*, *Lælia Perrini*, *Cattleya Gaskelliana*, and *Cypripedium Spicerianum*, whilst two really fine pieces of *Cymbidium Mastersi* and *Lowi* respectively were showing some large and healthy looking spikes. The whole of the plants looked extremely healthy, and showed plainly the careful sympathy and treatment they had received at the hands of Mr. Leadbetter.—IGNORAMUS.

## MILTONIA BLUNTI VAR. LUBBERSIANA.

ON September 8th last, at a meeting of the Royal Horticultural Society, Baron Schröder was awarded a first-class certificate for this beautiful variety of *Miltonia*, which is one of the best of its type, the flower large, the colouring rich, and the general appearance of the flower most striking. Concerning *M. Blunti* itself, of which this is a superior form, Mr. B. S. Williams wrote as follows:—"A very distinct plant—a lovely and elegant thing, as Reichenbach calls it, and which he has named after its discoverer. The plant was exhibited by W. Lee, Esq., Downside, Leatherhead, at



FIG. 72.—MILTONIA BLUNTI VAR. LUBBERSIANA.

the Royal Horticultural Society's meeting in October, 1883. In growth and habit it resembles *M. spectabilis*, between which and *M. Clowesi* it is supposed to be a natural mule. The flowers are as large as those of *M. spectabilis*, with lanceolate acute sepals and oblong-lanceolate less acute petals, both creamy white, with some large brownish lilac or cinnamon-purple blotches chiefly in the centre; the lip, which is oblong-obovate obtuse or subpandurate, like that of *M. spectabilis*, is white or pale rose with purple-violet stripes at the base, where there are two keels, and the short thick column has two large purple-violet wings."



## THE CONFERENCE ON FRUIT CULTURE AT MANCHESTER.

IN connection with the Fruit Show held in the Manchester Town Hall, on October 20th and three following days, by the Royal Botanical and Horticultural Society of Manchester, a Conference was held on the first and second days in the Mayor's parlour. The meetings on both days were well attended, and much interest was evinced in the proceedings.

Lord Derby presided on the first day, and he opened the proceedings with an able speech, in which most points affecting the extension of fruit farming were dwelt upon with his usual ability. In reference to fruit as an article of diet, he said:—It will be admitted that if we can add to the diet of the English labourer, the farmer, and the poorer classes generally, a free use of food which shall be nourishing, wholesome, and agreeable, we shall be doing useful service. We are apt to look too exclusively to meat as a source of nourishment, and both health and economy would be promoted by a more mixed diet.

Of fruit growing, he said, its advantages are obvious, and on the surface. It creates a large demand for labour, because in that industry the human hand cannot be superseded by machinery; it may, under favourable circumstances, give an immense return per acre; the work connected with it is healthy; and inasmuch as fruit is not easily or usually transportable to long distances, or capable of being kept for a long time, it is less exposed to foreign competition than corn or grain of any sort.

The first paper read was that of Mr. E. J. Bailie of Chester, or "The Fruit Growing Movement: Present Day Features and Prospects," in which special stress was laid upon the immense quantity of foreign fruit imported into this country, one reason for which was that it was grown, packed, and placed on market in such perfection as to leave little or nothing to be desired. Stress was laid upon the urgent need for reform in all these matters in fruit culture in this country. He, too, urged the dietetic value of food, the need for practical education in fruit growing, the want of greater facilities for the sale of fruit, and that fruit should be sold by sample and brand.

Mr. W. Crump of Madresfield followed with a detailed account of the raising and pruning of Apples for orchard and estate planting. This has been done at Madresfield for several years on a large scale, and the tenants have evidently taken full advantage of this valuable privilege, 1200 trees having been supplied them last season. This sensible plan has been followed on other smaller estates, where trees have been procured for the tenants from the nurserymen, much good being thus done indirectly by the Madresfield Court scheme.

Mr. T. F. Rivers's paper on orchard house fruit culture had its valuable teaching emphasised by numerous large photographs, which were handed to the audience. In the Fruit Show tangible proof of the value of orchard houses in the north was afforded by the fine fruit from the Lambton Castle (Durham) orchard houses, in contrast with the undersized fruit grown in the open air within twenty miles of Manchester.

On the second day the chair was taken by Sir James Whitehead, Bart., Master of the Fruiterers' Company, and papers were read by S. T. Wright, J. Cheal, and E. Luckhurst.

In a long and exhaustive speech Sir James Whitehead touched upon every important point affecting the extension of fruit farming. He laid especial stress upon the fact that of recent years there has been a very large increase in the consumption of food in this country, and that it is every day becoming more and more an everyday article of food. That within the last twenty years the consumption of fruit per man, woman, and child of the entire population had risen from something like 10d. per head to 3s., and there has not been a corresponding increase of fruit culture in this country, although there has been a very large increase in the cultivation of fruit—not only in the open, but under glass.

He also said that there was every opportunity for the ordinary farmer to add fruit culture to his business, quoting in support of this contention from Mr. John Wright's prize essay on "Profitable Fruit Growing," and from a letter he had received from Dean Hole, who advised the cultivation of fruit to a greater extent by cottagers and by holders of small allotments, and suggested that by means of lectures and otherwise advice should be given to them as to the best trees to plant in the various localities. The great question of the day, said the Chairman, was education. Farmers and cottagers at the present time were almost absolutely ignorant, especially in regard to soils and sites, and they knew but little of the methods of cultivation. What was wanted, as it seemed to him, was that they should have shows from time to time in the great centres throughout the country on the same system as the Royal Agricultural Society, and in connection with these shows lectures should be given and papers read, and, above all things, there should be object lessons, and thus before long the great masses of the people in this country should be educated in this most desirable industry of fruit growing.

After explaining a scheme prepared by the British Fruit Growers' Association, now before the Education Department, for the introduction of practical horticultural instruction into Board schools in rural districts, and dwelling at length upon the question of security of tenure as affecting tenant farmers in fruit culture, Sir James brought his eloquent and eminently practical address to a close amidst the hearty applause of a large and evidently deeply interested audience.

The papers which followed were well received, that of Mr. J. Cheal on "The Condition, Preparation, and After-treatment of the Soil for

Fruit Culture" being of a sound and practical character. Mr. S. T. Wright's paper on "Fruit-growing for Profit" was so excellent that we are glad to say he has promised to send it for publication in the *Journal of Horticulture*. Tangible proof of his skill in fruit culture was afforded by the fruit shown from Glewstone Court Gardens, and his three first prize bunches of Alicante Grapes were not only remarkable for colour, size, and finish, but for the singular uniformity in shape of the large, well-shouldered bunches. Mr. Luckhurst's paper will be found on page 359 this week.



EVENTS OF THE WEEK.—Horticulturists will be busy in the current week, for the Chrysanthemum shows are commencing. On Friday, November 3rd, the meeting to consider the proposed International Fruit Show will be held in the Cannon Street Hotel at 3 P.M., Sir James Whitehead in the chair. Upon the same day Messrs. Protheroe and Morris will hold a sale of *Cattleya labiata autumnalis* in flower, and other Orchids from M. Linden of Brussels. The Chrysanthemum Shows commence on Tuesday, November 3rd, when the Brighton, Kent County, Ipswich, and Watford Society's Exhibitions will be opened, the majority being two-days shows. On Wednesday, November 4th, the Dorking, Portsmouth (three days), and Ascot (two days) Shows will be held. The subsequent fixtures will be found in our Chrysanthemum column.

— PROPOSED LONDON INTERNATIONAL FRUIT SHOW.—Mr. James Douglas, Great Gearies Gardens, Ilford, writes to us as follows:—"I enclose copy of advertisement of proposed International Fruit Show, which has been sent to your paper. Will you please to announce that the meeting is to be held at the Cannon Street Hotel on Friday, October 30th, at 3 P.M., Sir James Whitehead in the chair, and urge all interested in such an exhibition to attend, and be prepared to offer suggestions?" [If the chief societies and organisations combine with this object in view we have no doubt it will be rendered a success. Each Society should be invited to nominate its representatives on the Committee.]

— MYLES MEMORIAL FUND.—It is with much regret we notice the death at Ealing of the Rev. Percy Myles, F.L.S., Editor of *Nature Notes* (the journal of the Selborne Society). Unfortunately he was unable to make any provision for his widow; the Selborne Society has therefore issued a special appeal to all the members, but would also do so generally to any other persons who may feel disposed to contribute to the fund. As many of our readers have doubtless profited by Mr. Myles's admirable "Pronouncing Dictionary" of botanical names, appended to Nicholson's "Dictionary of Gardening," it is hoped that they may like to contribute to the fund. The Rev. Prof. G. Henslow, Drayton House, Ealing, W., will be glad to receive any communications.

— WE are informed that the Municipality of Genoa has voted the sum of 15,000 lire in aid of the INTERNATIONAL BOTANICAL CONGRESS, which is to be held in that city in September, 1892, to celebrate the fourth centenary of the discovery of America.

— THE BEDDINGTON, CARSHALTON, AND WALLINGTON HORTICULTURAL SOCIETY will hold an Exhibition and Conferences on Fruit and Chrysanthemums in the Public Hall, Carshalton, on Tuesday and Wednesday, November 3rd and 4th, 1891. The programme is as follows:—November 3rd, 1891, 6 P.M., Conference on fruit in the small public hall. Subjects: "Planting and Pruning," by Mr. John Wright. "Gathering and Storing Fruit," by Mr. Joseph Cheal. "The Profitable Use of Boundary Fences and Walls in Small Gardens," by Mr. T. W. Sanders. On Wednesday, November 4th, 1891, a Conference on Chrysanthemums will be held in the small public hall. Subjects:—"Culture of the Chrysanthemum," by Mr. Edwin Molyneux, "Chrysanthemums at Home," by Mr. George Gordon; and "Decorative Value of the Chrysanthemum," by Mr. Lewis Castle.

— GARDENING APPOINTMENT.—Mr. David Jones has been appointed gardener to Sir R. R. Wilmot, Bart., Binfield Grove Farm, Bracknell, Berks.



— EXCELLENT arrangements have been made for the establishment of a good system of TECHNICAL INSTRUCTION in Essex. An organising joint committee of the County Council and the Essex Field Club was lately appointed to deal with the question, and funds were placed at its disposal. This body has now issued a preliminary schedule of subjects to be taught. Local technical instruction committees are invited to select from the list one or more subjects which they may deem specially suitable for their respective neighbourhoods. When several such bodies, representing adjacent districts, have chosen a particular subject the organising committee will select a teacher or lecturer, and endeavour to arrange a circuit for him comprising the centres needing his services, apparatus and illustrations being provided by means of the fund for that purpose. By this means the aid of thoroughly qualified and equipped instructors may be obtained by the local committees at a cost considerably less than would be incurred if each centre were to act independently.

— SOME POTATOES.—Your correspondent "B." (page 323) under the above heading calls attention to the good qualities of the Bruce Potato, and I am pleased to endorse his opinion of the same. In a new orchard we have recently made I planted half a ton, and I have had the produce lately lifted, which was 6 tons 3 cwt.—good eating Potatoes, free from disease; 16 cwt. good seed; 5 cwt. of small for pigs—in fact, the Bruce seems to be an improved form of Magnum Bonum, with all its disease-resisting properties.—R. MAHER, *Yattendon Court, Newbury*.

— NOTE ON TWO HARDY DAPHNES.—At page 344 last week Mr. Dunkin, in his excellent paper on flowering shrubs, recommends *Daphne laureola* to be planted for the sake of its sweetly scented flowers. The plant grows wild in this neighbourhood, and so far as my observation goes the flowers do not emit any perfume. It is, however, a pretty evergreen shrub, and thrives well under the shade of trees; but *D. pontica*, which perhaps resembles it somewhat, is, I think, a much more handsome plant, and is moreover exceedingly fragrant in the evening. I doubt not it is the one to which he intended to call attention.—THOMAS SMITH, *Henbury Hill, Westbury-on-Trym*.

— PINUS PYRENAICA.—A correspondent in a former issue (October 8th) writes, that a young tree of this Pine had been killed by frost during the past winter. Was the tree newly planted, and not established? If so this might account for the loss, otherwise it is quite hardy, at least in southern and midland counties. Trees here, in South Bucks, have attained a height of nearly a hundred feet, and withstand the sharpest frost without injury. The heavy and wet condition of the soil had most probably something to do with the loss of the tree in this instance.—H. D.

— A SEEDLING ANEMONE JAPONICA ALBA.—Mr. Andrew Campbell, Ashford Gardens, Cong, Co. Galway, Ireland, writes:—"I am sending for your inspection and opinion blooms and foliage of a seedling *Anemone japonica alba*. The plants are stout, robust growers, not requiring supports of any kind, and are most profuse bloomers, continuing in flower much later than the old variety. Each flower is replaced by a large head of seed, which is brought to perfection. Seeds sown when ripe flower freely the following autumn. Some of the plants are now four years old, and still retain their vigorous habit of growth, with full size and substance of flower." [The specimens sent were very strong, with large flowers, but they had suffered in transit, and did not present any remarkable characters.]

— LIMA BEANS IN CALIFORNIA.—Whatever California undertakes is usually done on a gigantic scale, and this is not less true of her seed crops than of other enterprises there. A few details as to the cultivation of Lima Beans in the Santa Barbara district may interest the seed trade. The quantity of seed used per acre is from 25 to 35 lbs., planted 3 feet apart, from which a yield may be expected of from 1000 to 2500 lbs. per acre. The crop of 1890 was estimated at 1000 car loads of 20,000 lbs. per car. The crop of 1891 is estimated at 2000 car loads, one grower having planted this year in one piece 1300 acres. This crop is estimated at over 100 car loads. Of course these Beans are not trained but allowed to run over the ground, and when in full growth form a waving sea of foliage standing 3 to 4 feet high. In harvesting the crop a V-shaped implement is used, consisting of two boards about 5 feet long and 12 inches wide, shod with steel shear runners and a rolling coulter made from a circular saw is set in the front end of this V. This coulter cuts the Vines, and the two side runners separate them into winrows. The rear of each runner has projecting iron arms with five teeth to shake off the dirt from the Vines.

— THE alleged POWER OF CAMPHOR to awaken seeds or stimulate their germination has been shown by the experiments of M. Henry de Varigny to have no real existence. Various kinds of seed were sown in sand saturated with water containing camphor, as advised by horticulturists, and the germination of all was slower instead of more rapid than that of similar seeds in water without camphor. Germination was even retarded by camphor vapour in the air, the water having no camphor.

— THE USE AND ABUSE OF WATER.—The admission I made at page 331, at having been incorrectly reported upon one or more points raised by "Yorkshire Bite," was intended to convey ample justification for the letter at page 305, though the reference made to my opinion of young gardeners, or how much they will profit, I consider were quite unnecessary, especially so when the fact remains that the primary points your correspondent alluded to were not my preaching; therefore I cannot admit that allusion as a basis of justification. I should be truly sorry if the Journal ever closed its columns to short controversial subjects, as it affords an excellent incentive, as well as a means by which we may all endeavour to put ourselves right, as my courteous friend observes. But unfortunately for me I had not seen the extract referred to at page 305 until after the letter by "Yorkshire Bite" had appeared. This, I trust, he will consider a full and pardonable excuse. It appears to me somewhat strange that "Yorkshire Bite" should doubt the flavour of Peaches from 8 to 11 ozs. while he himself exults in growing Grosse Mignonne at 9 and 10 ozs. Methinks he has lost a "bite" here.—A. WATERS.

— NITRATE OF SODA AS A STIMULANT.—I was pleased to see a note on this subject from Mr. E. Molyneux, who has given us a clear statement of the benefits attending the application of this stimulant to fruit trees. I believe that nitrate of soda has a great future before it, and that the opinion formed of its usefulness has hitherto been greatly underrated by forming hasty conclusions before having given it a fair trial, and by supporting their views by random tests. There are gardeners who would be horrified at the idea of giving nitrate of soda to fruit trees; their active imagination would speedily conjure up in their mind's eye visions of strong shoots, rich green leaves, but no fruit as the result, but they forget that the whole thing may be regulated at will by the amount given and by applying it at the proper season. Trees heavily laden with fruit are in no danger of making too strong a growth however well they may be fed; what they want at such times is a stimulant which will enable them to derive the fullest possible amount of nourishment from the soil, to be converted into an increased weight of fruit. And again, in cases where plants get into a stunted condition nothing seems to give them increased vigour so quickly as nitrate. Its action in such cases is to a great extent explained by recent scientific research, but it seems also to possess a power of recouping the energies of plant life, as yet unexplained. Professor Paul Wagner has published several works on the use of nitrogenous manures, which may with advantage be studied by both gardeners and farmers.—H. DUNKIN.

— LILIUM HARRISI.—Those who have not been successful in flowering in a satisfactory way this fine Lily will do well to depart from the orthodox method of culture, which is to dry off the bulbs after flowering, and then repot them. I was surprised to see some fine plants in flower in the Castle Lane Nursery, Warwick, the other day, and others coming on to succeed them, some with the flower stems a foot long and others just peeping through the soil. These will supply a succession of their fine flowers up till Christmas, after which time the newly imported bulbs will begin to yield flowers. The treatment the plants have received to have them in flower as above stated is as follows:—After flowering in April and May last the supply of water given was slightly reduced till the flower stems died down. From that time the soil in which the bulbs were grown received an occasional watering to prevent the fleshy roots (which it was noticed were still in a growing state) from being injured, this treatment being continued through the early part of the summer, and in due time young flower stems began to make their appearance from the base of the old ones. The supply of water was then gradually increased, and when these shoots had grown a few inches in length a rich top-dressing was given, and with no further trouble except the necessary attention in watering a fine crop of useful flowers was the result, a type of flowers which are very acceptable at all times, but which are rarely met with during the autumn months. It may thus be seen from the above notes that it is possible and indeed easy to flower bulbs of *Lilium Harrisii* twice within twelve months, and Mr. Kitley has certainly hit upon a simple method of accomplishing this feat.—D.



— **AURICULA HOUSES.**—I would like to ask through your columns if your Auricula correspondents who have houses expressly built for their plants will kindly say what is the proper aspect for such, and whether it is possible to grow the Auricula to perfection for show purposes in any one house throughout the year, or is it necessary to remove the plants into the shade in the summer months? I have diligently read everything I can gather on the subject, and find that the old growers placed their frames in different positions according to the season; and coming to modern times, I see that the Rev. F. D. Horner, in a lecture which appeared in the Journal a few years ago, implies that he moves his plants during the summer into a more shaded house. Now have not many of the leading growers had their houses specially adapted, either by position or artificial shading, as to enable them to grow the flower without its being necessary to move the plants at any season of the year? Of course I know all about shading the blooms, but what about the plants in the growing and summer season? If anyone who has experience of an Auricula house will kindly reply I shall feel grateful.—M.

— **BIRMINGHAM GARDENERS' ASSOCIATION.**—The opening lecture of the winter session was delivered by Mr. Harry J. Veitch of the Royal Exotic Nurseries, Chelsea, on the 21st inst., and had consented to open the session after much pressure from Mr. W. B. Latham and other friends. His subject, "A Visit to Greece, with views illustrated by limelight by the aid of a lantern." Sir Thomas Martineau, the President of the Association, presided, and there was a large attendance of members. Admirable pictures were given of Corfu, modern and ancient Athens, various buildings, sculptures, and a host of objects associated with ancient and modern Greece; and the lecture was brimful of interesting and instructive information, interspersed with quaint humorous remarks. The lecture altogether giving intense pleasure to the audience. Starting with maps to illustrate the journey, which extended to about three months, Mr. Veitch revelled in the delight of seeing the innumerable art treasures there, and examples of the marvellous skill of the ancients. A report of the lecture was impossible in a darkened room, and with a long subject before him in a given time, Mr. Veitch had to hurry his remarks; but he is an admirable lecturer, and the "Night with Greece" will long dwell in the memories of those present. The island of Corfu, he said, was a beautiful garden in April, and three millions of Olive trees are growing there for the production of Olive oil, and some of these trees are 500 years old. The horticulture of Greece is of a very limited character, and the cultivation of the Olive is the chief occupation of the people. The *Euonymus*, *Laurustinus*, *Photinia serrulata*, *Pinus halepensis*, and a few other trees and shrubs thrive in Greece; and standard Peaches, Apricots, and Figs grow there. The want of a good supply of water is, however, severely felt.

— **THE Chief Signal Officer of the U.S. Army** has, just before the transfer of the Meteorological Service to the Agricultural Department, issued three atlases, bearing upon the METEOROLOGY of the UNITED STATES, showing—(1) The isobars, isotherms, and winds for each month from January to December for the years 1871-73, a period prior to the regular publication of the monthly charts. The data used include all the materials possessed by the Smithsonian Institution. (2) The probability of rainy days, prepared from observations for eighteen years (1871-88). The average number of such days for all months and for each station has been calculated, and the percentages thus obtained are graphically shown on the charts. The data show great differences of distribution of rainfall in localities not far distant from each other; the influence of the prevailing direction of the wind in increasing the number of rainy days is particularly noticeable in the Lake region. (3) The average monthly cloudiness for the period 1871-88. Cloud observations show indirectly the relative amount of sunshine, as it may be assumed, within reasonable limits, that the complement of cloudiness will be sunshine. The investigation of this element is useful in determining the suitability of certain localities for health resorts, or for the ripening of crops, and the charts may be considered as standard cloud maps of the United States.

— **DR. KING, DIRECTOR OF THE BOTANICAL SURVEY OF INDIA**, has issued a report on the working of the Botanical Survey in Assam and Burmah, for which 2000 rupees are annually allowed, with a view to arranging a plan for working by native collectors. Dr. King visited Assam in the latter half of last year, and found the local authorities ready to afford every assistance. Two native collectors were secured, and set to work near Golaghat, and in the Khasia Hills. The Conser-

vator of Forests also sent a large number of specimens to the Herbarium at Calcutta, and a Eurasian collector was employed for a time in Cachar. Some interesting plants were also obtained from the base of the Eastern Himalayas. Fairly good work was done in Upper Burmah by a native collector, and his specimens are now in course of being arranged at the Calcutta Herbarium. The collecting agencies continue working during the present year.

— **DR. PRAIN**, the Curator of the Herbarium of the Calcutta Botanical Gardens, accompanied the surveying ship "Investigator" during part of her operations in the Bay of Bengal last year. By a special arrangement, Dr. Prain was put down on the Great Coco Island for a few days, and was also enabled to pay short visits to the Little Coco and to Rutland Islands. Except for the visit made by Dr. Prain under similar circumstances the previous year, the Great Coco had not before been explored by a botanist, and the Little Coco and Rutland Islands were this year visited for the first time. Accounts of these visits are to be officially published in due course.—(Nature.)

— **THE Ealing Middlesex County Times** (October 17th) prints the following account of an incident which occurred at "The Grange," the residence of Mr. Yates Neill, Ealing, on Wednesday, October 14th:—"It appears that during Tuesday night a large branch of one of the magnificent Chestnut trees standing in the ground was broken off by the force of the wind, and fell on two stripling Chestnut trees near the wall. On Wednesday morning, the gardener, a man named Parker, was engaged in sawing the detached bough, Mr. Delancey Neill and Mr. Vertie Neill watching the operation. Just before noon, the first-named gentleman saw what appeared to him to be a ball of fire fall, and striking the tree in an oblique direction, alight on the ground within 2 or 3 yards of where the three were standing, whence it rebounded and exploded with a sound like dynamite. Although neither of them was struck, the shock was so great that for a time all three were dazed, Mr. Vertie Neill, indeed, being thrown down, and rolling over two or three times. His brother was the first to recover from the shock, and promptly went to his help, and he was removed to the house, where the feeling of dizziness speedily wore off; and beyond somewhat severe headaches, which lasted for some hours, neither of the gentlemen nor the gardener appeared to have suffered any ill effects. The trunk of the tree struck by the meteor presents the appearance of having been burned in a zigzag direction for a distance of some 20 or 30 feet."

### NEW KIDNEY BEANS.

KIDNEY BEANS are among the most useful crops that can be grown in the kitchen garden. The varieties, Canadian Wonder, Ne Plus Ultra, Negro, and Osborn's Prolific, are well known as useful varieties. It has been my good fortune this year to have had sent me for trial by Mr. Smythe of Basing Park some of his new dwarf Bean, the result of a cross between Ne Plus Ultra and Canadian Wonder, and which this year has obtained three marks in the R.H.S. Gardens at Chiswick. This Bean stands the highest in my estimation of any. It is ready for the table at least a fortnight before any other. It has a fine flavour, is a good cropper, and equally good for forcing. It is being sent out this year by Messrs. J. Veitch & Sons.

Mr. Smythe's new Scarlet Runner is still, in my estimation, one of the best yet raised. The great advantage of this Bean is that it can be grown without stakes, and its yield is almost equal to the long Runner Bean. Its quality is superior to its parents. The reason I mention this dwarf Runner is because in my article on the culture of Beans, two years since, I spoke very highly of it. I have now changed my locality, and find it does equally well on different soils, and I recommend Mr. Smythe to send it out. While on a recent visit there I saw several new Beans, of which, perhaps, more will be heard in future.—G. A. BISHOP, *Wightwick Manor Gardens, Wolverhampton.*

### ARISTOLOCHIA GIGAS.

SOME of the most remarkable flowers in the vegetable kingdom are produced by members of the genus *Aristolochia*, and several have been from time to time figured or described in this Journal, one of the most remarkable that has hitherto appeared in these pages being *A. Goldieana*. Attention is now directed to one which, in some respects, even surpasses that in interest, and certainly in size of the flower. The plant, which is known both as *Aristolochia grandiflora* and *A. gigas*, has for some weeks been flowering in the Victoria Lily house at Kew, and is there trained to the rafters extending over the large central tank. It is of vigorous growth, with heart-shaped, dark green leaves about 6 inches



in diameter. The flowers are about 16 inches across, 20 inches long, terminating in a narrow tail-like appendage about 18 inches in length. The general shape is elliptical, and open or flat, not hooded like some

the plant presents with a dozen or more of these gigantic flowers drooping from the stems.

The engraving (fig. 73) was prepared from a flower shown at a recent



FIG. 73.—ARISTOLOCHIA GIGAS.

species, creamy white, flaked and mottled with bright rosy crimson, with an oval dark maroon centre 6 inches in diameter, giving a peculiar effect to the flower. It can be imagined what a singular appearance

meeting of the Royal Horticultural Society, and is reduced about one-fourth. At the meeting last Tuesday Miss Marie Low exhibited a painting representing the flower of its full size.



## ON KEEPING DAHLIAS.

THE popularity of the Dahlia is deservedly increasing, and as there are numbers who have only the slightest knowledge of how to treat the tubers in order to keep them through the winter months a few notes just at present may be acceptable. That it is possible to keep the tubers in the best condition there can be no doubt, as for many years I have been in the habit of storing a large number—several hundreds—and it is quite exceptional that any are lost. I do not give any particular reason for this, as I believe the method of culture generally has much to do with success in safe wintering. Thus all the tubers are old—that is to say, they are not from cuttings of the same year, as my practice is not to produce my stock from cuttings, but by division of the tubers. The primary reason for doing this was to ensure their safe keeping during winter, as I found that the larger and better ripened the tuber the less danger there was of loss. But I also had the satisfaction of having plants in flower quite a month earlier by this method, and in the case of shy-flowering Cactus sorts this is no mean gain.

With new sorts bought as spring-rooted plants the pots are merely plunged, but deep enough to allow a free growth of roots. Treated thus, these keep as well as the others. When the plants are cut to prepare for removal quite 15 to 18 inches of stem is left, and I like to leave the tubers awhile in the ground after having been cut, so that the dormant buds may be a little more pronounced than if the roots were lifted at once. When they are lifted all the soil that rises with them is left, and I invariably find that the best preserved tubers are those which are stored with soil attached to them.

During winter absolute dryness is essential. Ours are stored in a shed where there is always a little heat, so that no damp is possible. In spring the tubers shrivel somewhat, but I have not noticed that this has been prejudicial. During the month of March if very dry they are watered perhaps two separate times, and by the beginning of April most of them are fairly prominent. I used to defer planting until the beginning of May, but this year I took an opportunity early in April to put out the tubers, setting them much in the same way as "started" Potatoes, and the plants did well, being sturdy, dwarf, and early flowering. I may add that although there is 200 feet super in which the tubers are stored I find it necessary with some of the sorts, such as Glare of the Garden, Juarezi, Chilwell Beauty, and the Old White, of which a large number of each is grown, to bank them up three or four deep, but being always dry they keep perfectly well.—B.

## CIDER.

WE have for some time had what appears to be an excellent little American handbook\* on making cider awaiting notice, and at the present time a few extracts from the work will not be inappropriate. They will also indicate the nature of the book, and those of our readers who desire detailed information on making cider may advantageously consult its pages.

Relative to varieties of Apples and management the author observes:—

"It is a general rule that 'the better the Apple the better the cider;' but this is not to be understood as meaning that the Apples best for eating are always best for cider-making. It is certain, however, that poor, watery, or flavourless Apples can never yield good cider, and it is equally certain that such Apples as the Spitzenberg, Seek-no-farther, Rhode Island Greening, Tompkins County King, and Swaar, all of which are among the best table fruits, do make most excellent cider. But there is another class of Apples, comprising Russets and Crabs, which make the best of cider, and yet are never of the highest quality for table use. They assuredly do attain in time to a condition which admits of presenting them at table, but it is at a season when the other varieties, better liked for that purpose, are generally gone, and the Apple-lover must use Russets and Crabs, or wait another harvest.

"Of whatever variety of Apples cider is made, it is of the greatest importance that the fruit be carried to the highest maturity before that work begins. The French recognise three stages in the maturing process, which they denominate severally 'Maturity of vegetation' (growth), 'Maturity of honeying' (ripening), and 'Maturity of expectation,' which, being rather difficult to define by any synonymous English word, may be best explained by translating the text, "'The "Maturity of expectation" uses or combines the scattered principles to form sugary matter, which thereafter abounds in the Apple.'" Probably the three periods are those known to us as the growing, the ripening, and the sweating

periods or stages; the first and second occurring on the tree, and the last taking place after the fruit is gathered.

"Whenever it is done sweating is of very great importance to the quality of the cider. Its most obvious effect is to reduce weight by evaporation of part of the water of the juice, which is always excessive. By this it produces indirectly an increase in the relative proportion of the saccharines.

"Apples which are not completely grown contain a large quantity of starch, but no sugar. After the fruit is fully grown the starch gradually disappears, and in its place we find Grape sugar. This change constitutes the ripening of fruits, and, as well known, will take place after they are gathered. In this process we have clearly a conversion of starch into sugar by the agency of vegetable acids present in the fruit, a change independent of life.

"Of course the conversion of tissue into saccharine implies a thinning down and weakening of the cells containing the juice, whereby their power to resist pressure is very much reduced, and the Apple becomes softer or 'mellow.' The loss of water at the same time contributes to the same effect.

"Wherever stored after gathering Apples should not be placed in large heaps, nor should they be stored in closed sheds, barns, or bins; but they should be exposed in small piles to the air, wind, and sunshine. They must also be kept perfectly clean, sound, and free from all foreign odours, especially so from mustiness. If allowed to lie on the ground for more time than necessary to gather them they will take an earthy flavour, known in wines as *goût de terroir*, and which will neither leave them nor the cider made therefrom.

"It is no uncommon thing to see Apples collected in heaps on the ground under the trees where they grew, and so left for a week or two before being carted to the mill, where again perhaps they were stored in large closed bins for another equal period, a very sure way indeed to diffuse the earthy and musty flavour with any others they may have acquired, and of thoroughly infecting the whole stock.

"We will suppose our Apples to have been harvested and carefully sweated, and to be now ready for cider-making. They are yet in heaps, each kind by itself, under the trees where they grew. In order to haul them to the mill they must be mixed. Now comes the critical question: How shall they be mixed? It will not do to throw them together indiscriminately; some may be worthless for cider, and be able to damage, if not to destroy, the entire product; and others, if not quite so bad, may possess qualities, or want of qualities, that unfit them for cider, and that the cider will be all the better without. What we are aiming at is high quality in our product. It certainly cannot be obtained by an indiscriminate mixture of all our fruit, regardless of quality. It will not do, even with Grapes, so much richer in wine-producing properties, and surely not with Apples; the greater deficiencies of which, in those respects, demand the more careful judgment, the more skilful blending, and, above all, the most absolute rejection of all those which can in any degree depreciate quality.

"How, then, are we to mix our Apples? Assuredly they should be so mingled that one kind may make up for the deficiencies of another, and that the blend, as it is called, shall be better than the cider made of either one of the varieties alone; in short, so that each shall contribute something toward, and detract nothing from, a complete and generous whole. To do this intelligently it is necessary to know something of the constituent proportions of the various fruits, in order to bring them together harmoniously, and especially to avoid making use of any which are nearly or quite worthless or injurious to our purpose. Good wine is obtained in that way only, and it is the only possible way to obtain good cider.

"Whoever thinks that 'any Apple is good enough for cider' had better not engage in the business. He probably would not know a good article of cider if by any accident he should ever taste one. This book is designed to guide those who intend and desire to make the best, and are to be satisfied with nothing less. Incidentally it teaches how to make the most of imperfect material, but the most perfect product can only be made with the best material. Rest assured that this is eminently true in cider making. Poor material had better be used in other ways, where it can do no harm, and may possibly be made to yield profit; but to use it to deteriorate quality of a product where quality is the first and highest consideration is simple foolishness."

Alluding to the uses of cider, Mr. Trowbridge says:—

"For all purposes for which wine is commonly used, cider, properly made, has much to commend it over many wines. The principal difference between them lies in the lighter alcoholic strength of cider and in the absence therefrom of tartaric acid, which is the principal acid of wine. Tartaric acid combines with lime to form precipitates, or insoluble particles, whenever they are brought into contact. Cider is certainly free from this objection,

\* "The Cider-Maker's Handbook." By J. M. Trowbridge. New York: Orange Judd Co. London: Kegan Paul, Trench, Trübner & Co., Ltd.



since it contains no tartaric acid, the place of which is supplied in the Apple by malic acid. The latter acid is also found in Grape juice, with tartaric, but it has not the power to form precipitates with lime like the tartaric. Malic acid is the principal acid in Cranberries, Rhubarb, Cherries, and also a component of a large number of the most wholesome fruits and plants. Cider should be nothing more nor less than a true Apple wine; that, and nothing else. But, like Grape wine, it may be well or ill made, and it may be agreeable or disagreeable, and yet be pure."

The properties of cider are temptingly portrayed as follows:—

"A pure article of cider, skilfully made from select fruit in perfect condition, should have perfect limpidity and brightness, even to sparkling in the glass; it may vary in colour from a delicate straw to a rich amber colour, more or less deep, but should never be a bright red, nor, indeed, show much of a roseate tinge. It should be fragrant, so that when a bottle is freshly opened and poured into glasses an agreeable fruity perfume will arise and diffuse itself through the apartment, 'with a benison on the giver.' It should be tart, like Rhine wine, and by no means sharp or harsh. It should have a pleasant, fruity flavour, with aromatic and vinous blending, as if the fruit had been packed in flowers and spices. It should have mild pungency, and feel warming and grateful to the stomach, the glow diffusing itself gradually and agreeably throughout the whole system, and communicating itself to the spirits. It should have a light body or substance about like milk, with the same softness and smoothness, and it should leave in the mouth an abiding agreeable flavour of some considerable duration, as of rare fruits and flowers. These qualities are all attainable, but they demand the knowledge and skill which come by practice, thought, assiduous painstaking care, and, above all else, the most rigorous cleanliness. With these and proper material, any intelligent person can make good cider. There is no mystery about it and no secret."

The handbook is illustrated, and the details for making cider are given in its 117 pages.



THE ROSE SEASON OF 1891.

ON all sides we hear of the disappointing character of the harvest. Money articles in the *Times*, reports from correspondents in other papers all tell the same story. There was a goodly prospect in the early summer. May and June brought on everything, but then came a wet July, and the wettest August known for many years, and the hopes of the farmer were considerably diminished. September gave some relief, but on the whole "disappointment" has been the word which most fully describes his position. The same may be said of the flower harvest, and especially of the Rose—a season when everything was three weeks or more behind, when Mr. Horner could not show Auriculas at the usual date because his plants were not in flower, when some of our best Carnation and Picotee growers were prevented from exhibiting from the same cause, when Mr. Lindsell and myself—he partially and I entirely—were prevented from putting in our usual appearance with Gladioli at the Crystal Palace, for at that time I could not to save my life have cut a dozen spikes; and this character of the season very naturally influenced both exhibitors and exhibitions. Take for example two of the most successful exhibitors of 1890—the Rev. F. R. Burnside, who swept all before him in Teas that year, and Messrs. Harkness, who were the winners of the trophy. In the earlier shows of the year they were absolutely nowhere, and it was not until the third week in July that the former showed at all in his usual form, while the latter even then had not his plants in flower. It may be said that they were far north; true, but on the 7th of July I was in the garden of my friend Mr. Lindsell at Hitchin—he grows somewhere about 3000 plants—there were whole quarters without a flower, and he had the greatest possible difficulty in cutting twelve trebles for the Bath Show, and they were indifferent. Some people shake their heads incredulously when we affirm such things. "What," said a west countryman to me, when I was expatiating on the lateness of our season, "and you in the Garden of England!" Yes, in truth, and so it is, we say against all comers, but for all that not so favoured as many places.

Now this perversity of the season led to some very disastrous effects. Some Committees of Rose societies were constrained to alter their dates, and as the Rose exhibition season is a short one this led to more clashing and confusion than was usually the case, and it made the great metropolitan show of the National the worst that they had ever held, with perhaps the exception of that disastrous year 1879. This was seen both in the extent and quality of the exhibition. Large as it seemed to be, it fell far short of those preceding it, while the whole character of the blooms was mediocre. Nothing could show this better than the

fact that where boxes had to be taken in detail, and judged by points, it was very rare that three points could be given to a bloom; and as a consequence, there were no such pleasant memories to look back upon as when some grand box or some magnificent single flower rests on the memory. But I do not think that we must lay all the blame of this on the lateness of the season. I think the terribly severe winter had a good deal to do with it. I took a good deal of pains in the spring to ascertain what had been the effect of the terribly severe frost that we experienced, and for this purpose I wrote to most of the leading growers, especially amongst amateurs, obtaining answers as to the effect on Teas and Hybrid Perpetuals. These, of course, varied much through the differences of soil and situation, but there was a general consensus of fact that they had been very hard hit, that hard pruning was necessary, and that in the case of Teas in most places they had been cut to the ground, while the deaths were not so numerous as might have been expected. Now, where this is the case, it must take a longer time for the Rose to make its growth than when they have not suffered much, and this, I think, was fully borne out by the results of the Hereford Show of the National, where the quality of the flowers was excellent, and making it the very best provincial show that the Society has ever held, and where exhibitors who had made but a sorry appearance ten days before showed admirably. Take, for example, Mr. Burnside, who last year swept all before him at the Palace, but "took a back seat" there this year, yet at Hereford he came out in his usual form, and occupied the foremost place. That Hereford Show was, in truth, a great success, and it is satisfactory to be able to state that its financial results exceeded the most sanguine expectations of the friends who had so pluckily undertaken it.

The carrying off of the challenge trophies is always a matter of interest. This season the nurserymen's trophy fell to Mr. Ben Cant, our veteran Rose exhibitor, who for fifty years has been engaged without intermission, and is now as keen over his flowers as ever. Mr. E. B. Lindsell again carried off the amateurs' trophy, while Mr. Alex. Hill Gray won the Tea challenge trophy and the Boscawen Memorial prize. The Jubilee trophies, which were instituted for the benefit especially of the northern growers, fell to southern men, that for nurserymen to Mr. Frank Cant, and the amateurs' trophy to the Rev. J. H. Pemberton. Indeed, as far as the north is concerned one does not see who is to carry off this latter. The retirement of Mr. T. B. Hall and Mr. E. R. Whitwell removes from us the only large growers in the north, and unless some other amateur steps in to take their place we fear these trophies will always go south.

We fear that it has fared badly with many societies. July is too often a wet month, and that of the present year has been especially so. We all know how many of them live from hand to mouth, and it is to be feared that some of them will be sorely crippled by the wet days they have had to suffer from.

There have been no remarkable records of individual success such as I have had to record in many previous years. Perhaps the most noticeable feature has been the manner in which Mr. Alexander Hill Gray has stepped into the front rank as an exhibitor of Tea Roses. I have long felt and expressed the opinion that he was destined to do this, and the present season has shown that this opinion was correct. Both at Tea and Noisette exhibitions, and at the Metropolitan Show he carried all before him, and his Roses were remarkably fine, especially when we take into consideration the character of the year, although perhaps this was in his favour.

And if there were no remarkable records in prizewinners, I have not much to record as to new Roses. There are many to whom Gustave Piganeau will seem a great gain (great it is as far as size is concerned), but it is not a style of Rose which I value very highly. It has, however, one good quality—it is a very free autumnal bloomer, in this respect resembling Paul Neyron, from which it is said by some to be a sport, while others think it more like Antoine Ducher. There is no more favourite variety with the French for decorative purposes at this season of the year than Paul Neyron, and this probably being of a deeper colour may become equally popular. Messrs. Dickson's fine Rose, Margaret Dickson, has been shown by them in fine condition, and is unquestionably a great gain. Another of their seedlings, Marchioness of Dufferin, was awarded the gold medal of the N.R.S.; it is a light coloured Rose, and one which will be a great favourite; it has also a most delicious perfume. Cleopatra is a very beautiful Tea Rose, with a fine pointed bud, but I think it is questionable whether it will have stuff enough to make it a reliable exhibition Rose. Another Tea Rose of which I entertained a good opinion, was Corinna (Messrs. W. Paul and Son); it is of the character of Princess of Wales, and in a better season would probably be a welcome addition to our Teas. Mrs. Paul (Paul & Son) has not been, of course, largely exhibited as yet, but where seen has been most admired, and its vigorous habit is much in its favour.

And now turning away from Rose exhibiting, with its changes and chances, its ups and downs, successes and disappointments, which has been the character of the past season as far as the Rose garden home enjoyment of the flower is concerned, many things were in its favour; the enemies of the Rose were not in full force—maggots were scarce, and as to the aphid I have not seen a single individual on any of my trees during the whole year. Why this should have been I cannot say, but the same experience has been that of all the Rose growers with whom I have talked on the subject; neither have I seen as much of the red ru or orange fungus, while the absence of mildew has been something remarkable. The weather has been cool, the temperature low, and it is, I believe, the alternations of hot weather, hot sunny days and cold



nights are the fruitful source of this pest. These alternations we have not had, and consequently we have been spared mildew; but with all these advantages the bloom was disappointing, being of such short continuance. I do not think in my own small garden I ever had a better, and I question if ever as good a display of fine flowers; but then it was only for a few days—violent thunderstorms, with deluges of rain, soon took their beauty away, many became gummed, and all soon shed their petals; but they in one way compensated for it. The month of August, so injurious to our cereal crops, just suited the Roses. They made vigorous growth, and when care was taken to disbud the new shoots splendid autumn blooms were obtained. I never myself had a finer bloom, and the Tea Roses were superb. This has been corroborated by others, and although the terrific weather of the second week in October has committed sad havoc amongst them I am yet hopeful that when the weather improves, which I suppose it will do, some late blooms may still be had.

In this brief review of the past Rose season I have, of course, relied solely on my own experience, and given my own views. There may be some who will differ from my conclusions. The conditions of soil and situation may modify them, although I hardly think that they will do so to any great extent; at least, all with whom I have had the pleasure of conversing on the subject have agreed on the correctness of the designation I have given to the season as a most disappointing Rose season.—*D., Deal.*

#### TEA ROSE THE QUEEN.

WE notice that a writer in a recent issue of the Journal alludes to this Rose as "Mr. W. Paul's The Queen." We trust he will pardon our pointing out that this is scarcely correct, as it originated with and was introduced to commerce by the Dingee and Conard Co. of West Grove in the United States, and we think it only fair to our esteemed friend, Mr. A. B. Conard, and his worthy partner that this should be generally known. We (no doubt in common with other English rosarians) ordered it from a circular received in the winter of 1888-9, and the plants reached us early in the spring of 1889. Souvenir de S. A. Prince was not sent out until some months afterwards. The identity of the two varieties seems to be now generally admitted, but there is no doubt as to The Queen having been the first in the market by several months, and considering this fact as establishing a claim to priority of nomenclature, we catalogue the variety under the name of The Queen. We were the first to exhibit The Queen in bloom in this country, as we had previously been in the case of the fine American varieties Sunset and The Bride, but beyond being amongst the earliest purchasers of them, we can lay no claim to introducing them to commerce.—*WM. PAUL & SON, Waltham Cross.*

#### CELOSIA PYRAMIDALIS IN THE AUTUMN.

THIS is one of the best plants in cultivation for decorative purposes at the present time of the year, and indeed it is difficult to imagine any season when their feathery plumes of bright and varied colours are not welcomed; but they are not so much grown for use during the autumn months as during the summer time, and are, therefore, the more highly prized then. Another great point in their favour is that they last a long time in dwelling-rooms; in fact, longer than any other flowering plant that I know. We use them freely for decorative purposes, and have at the present time plants in 4 and 5-inch pots which have been in the rooms for upwards of three weeks, and are apparently none the worse for their long stay. The great secret is to keep them rather dry at the root—one watering before they are really dry will inevitably prove fatal. When arranged in wide ornamental pans or jardinetts, with a base of small and well-flowered Marguerites and an edging of *Isolepis gracilis* and *Panicum*, they are exceedingly effective. They also look well when placed singly in small vases, or when from three to five are placed in a larger vase; they are very telling in suitable positions, and anyone who makes a point of arranging them in various ways will find that they show to advantage much better when placed where they have no background near them—near walls, or in any position where they have not plenty of light around them, the effect is spoilt. Loam, two parts, well decomposed hotbed manure one part, with a liberal admixture of sharp sand, is a suitable compost for them.—*H. D.*

#### ROYAL HORTICULTURAL SOCIETY.

OCTOBER 27TH.

"AUTUMN tints" predominated charmingly at the meeting in the Drill Hall on Tuesday last, not only in the extensive and beautiful collections of varied tree and shrub sprays, but also in the rosy cheeked Apples, which occupied so large a proportion of the table space. Chrysanthemums and Orchids also added their attractions to a display that for the time of year has scarcely been surpassed. Many Fellows and visitors assembled in the afternoon to hear Mr. Harry J. Veitch's entertaining lecture on "Autumn Tints," which was delivered in his customary pleasing manner.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq., in the chair, Dr. Robert Hogg, and Messrs. G. Woodward, T. Francis Rivers,

W. Bates, G. Bunyard, G. Wythes, W. Warren, J. Hodson, H. Balderston, R. D. Blackmore, C. Ross, F. Q. Lane, J. Smith, W. Denning, J. Cheal, J. Willard, A. H. Pearson, A. Dean, and G. Reynolds.

Messrs. Rothschild, Gunnersbury Park (gardener, Mr. G. Reynolds), were successful exhibitors in the two classes provided for six bunches of Grapes each, one being for flavour, as in both the exhibits from Gunnersbury were awarded premier honours. The varieties for flavour were Mrs. Pince, Black Hamburg, Muscat Hamburg, Muscat of Alexandria, and West's St. Peter's, all good compact bunches. In the other class handsome examples were shown of Gros Maroc, Muscat of Alexandria, Mrs. Pearson, and the following:—

*Chasselas Napoléon*.—For this a first-class certificate was awarded, as it was in extremely fine condition. The bunches large but compact; the berries large, oval, white with an amber tint, fleshy, and of good flavour.

Amongst other exhibits were noted well grown brightly coloured examples of Sutton's Perfection Tomato (cultural commendation) from Mr. Debnam, Spring Grove, Isleworth, who also sent a Melon raised from a cross between Hero of Lockinge and Scarlet Premier. P. Crowley, Esq., Waddon (gardener, Mr. W. King), showed a dish of very fine Cox's Orange Pippin (cultural commendation). From the Society's gardens at Chiswick came bunches of the small black out of doors Grape, Miller's Burgundy; and Mr. C. Ross, Newbury, sent fruiting spikes of *Phytolacca decandra*, the American Pokeweed, which has black fruits somewhat like Blackberries, closely set on a spike over a foot in length.

The collections of Apples and Pears were extremely fine, and formed an admirably display. Mr. G. Woodward, The Gardens, Barham Court, Maidstone, had 110 dishes of Apples and Pears (silver-gilt medal); Messrs. J. Veitch & Sons showed 100 dishes and baskets (silver-gilt medal); Messrs. Paul & Son, Cheshunt, had about 100 dishes (silver Banksian medal); Mr. G. Wythes, Syon Gardens, Brentford, showed 80 dishes (silver Banksian medal); Messrs. Peed & Son, Norwood Road, had 50 dishes, but comprising some very fine fruits (bronze medal); and a large collection also came from the Society's Garden at Chiswick.

In the class for six dishes of Apples Mr. G. Sage, Ham House Gardens, was first with fine specimens. For the same number of Pears Mr. Hudson, Gunnersbury House Gardens, took the first place with praiseworthy fruits, and Mr. Sage followed.

FLORAL COMMITTEE.—Present: G. Paul, Esq., in the chair, and Messrs. W. Furze, C. Noble, J. Walker, H. Cannell, H. Herbst, R. Dean, H. B. May, B. Wynne, G. Brycesson, G. Phippen, C. Jeffries, W. H. Poë, C. E. Pearson, F. Ross, and G. Gordon.

The collections of tree and shrub sprays distinguished by the bright and varied colours of their changing foliage or by the possession of attractive berries and fruits were the most important feature amongst the exhibits. Large numbers of Oaks, Maples, Azaleas, *Ampelopsis*, *Berberises*, varieties of *Rhus*, *Liquidambars*, *Andromedas*, *Mahonias*, and others were shown, Messrs. J. Veitch and Sons having the largest display, comprising 120 distinct varieties (silver Flora medal). E. C. Smith, Esq., Silvermerc, Cobham (gardener, Mr. Quarterman), also had a beautiful group very tastefully arranged with a broad marginal band of brilliant red and other fungi upon a moss (silver Banksian medal). Similar awards were granted to R. S. Holford, Esq., Westonbirt, Tetbury, and to Mr. Wythes for smaller collections. Messrs. Cutbush and Sons, Highgate, gaining a bronze medal for a handsome group of *Pernettyas* in fruit and a collection of trees and shrub sprays like the preceding.

Chrysanthemums came next in importance, Messrs. J. Veitch and Sons having a large and effective group of plants representing the chief types and some new varieties, also handsome cut blooms of the Japanese *Vivian* Morel (silver Banksian medal). Mr. G. Wythes also had a tasteful exhibit of cut blooms, including several fine examples, arranged with small Palms and Ferns (silver Banksian medal). Mr. T. S. Ware, Tottenham, sent cut blooms of Chrysanthemums *Vivian* Morel, *La Condamine*, pale pink; and *Amos Perry*, yellow, in the style of Mr. H. Cannell. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, showed plants of "the yellow *Lacroix*," named Mr. C. E. Shea, a free variety, with medium-sized bright yellow blooms and narrow florets. Messrs. Paul & Son sent a plant of the rich crimson Japanese *Alberic* Lunden. Mr. R. Falconer Jameson, Hessle, Hull, sent fine blooms of *M. R. Bahuant* and *Bouquet de Dame* Chrysanthemums, the former of which secured an award of merit, with blooms from other exhibitors. Mr. C. Blick, The Warren, Hayes Common, exhibited an incurved Chrysanthemum named *Madame Durrier*, the blooms neat and well finished, but not deep, the colour a peculiar amber salmon tint. Messrs. Pitcher and Manda, Hextable, showed a collection of cut blooms of Chrysanthemums; and Mr. R. Owen, Maidenhead, had several boxes of blooms, including both English raised and continental novelties, two of which received awards of merit.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq., in the chair, Dr. M. T. Masters, Messrs. J. O'Brien, S. Courtauld, J. Douglas, E. Hill, H. Low, H. M. Pollett, D. B. Crawshaw, T. B. Haywood, F. Sander, and Lewis Castle.

Orchid exhibits were not very numerous, but they included several interesting plants, and two or three small groups. Messrs. Collins and Collins, Willesden, had a graceful arrangement of *Oncidiums*, with Ferns (small silver medal). Messrs. Sander & Co., St. Albans, showed a group of new and rare Orchids, also large healthy imported plants of



*Cattleya labiata* vera in excellent condition (bronze medal). C. Ingram, Esq., Estead House, Godalming (gardener, Mr. Bond), exhibited a group *Cattleya labiata*, var. *Warocqueana* in many varieties, as also did F. Wigan, Esq., Clare Lawn, East Sheen (gardener, Mr. H. Young). Other exhibitors of Orchid plants or flowers were Admiral Cator, Hazlewood, Kings Langley. Messrs. Pitcher & Manda, C. J. Lucas, Esq., Warnham Court, Horsham (gardener, Mr. Duncan), and Mr. H. Tracy, Twickenham.

## PLANTS CERTIFICATED.

*Cypripedium Pitcherianum*, *Williams' Variety* (B. S. Williams and Son).—A particularly handsome *Cypripedium*, with large bold flowers, having a polished shining appearance, and very rich in the colouring. The dorsal sepal is 2½ inches broad, rounded, veined with dark crimson in the centre and at the base, the lower sepal pale green; petals polished with dark reddish central vein, the lip neat and of a dark tint like the petals (first-class certificate).

*Chrysanthemum M. R. Bahuant* (Messrs. R. Owen, Falconer Jameson, and J. R. Pearson & Sons).—The new incurved variety described and illustrated in this Journal last week (award of merit).

*Chrysanthemum Louis Boehmer* (W. Furze, Esq., and Messrs. J. Veitch & Sons and Pitcher & Manda).—The "pink Mrs. Alpheus Hardy," a very distinct and peculiar variety of much better habit than the last named. It is described on page 363.

*Chrysanthemum Mrs. Nisbet* (R. Owen).—A Japanese variety, said to be from English saved seed, and described as very dwarf, not exceeding 3 feet in height. The flowers are of good substance, the florets flat, rich crimson, with a silvery reverse (award of merit).

*Richardia ethiopica compacta* (Messrs. R. Veitch & Sons).—A dwarf, compact growing variety with neat leaves and good sized spathes, useful for culture in pots (award of merit).

*Cypripedium radium* (C. Ingram, Esq.).—An attractive variety with a broad dorsal sepal veined with crimson in the centre, and at the base broadly margined with white like *D. Spicerianum*, the petals small, greenish, undulated at the margin, the lip very dark (award of merit).

*Chrysanthemum William Wells* (W. Wells).—A Japanese variety with pale yellow, deep, well proportioned blooms, the florets narrow and incurving (award of merit).

*Dendrobium O'Brienianum* (Sander & Co.).—A distinct Orchid with long drooping racemes of small creamy-white flowers (botanical certificate).

## SOUTHAMPTON CHRYSANTHEMUM SHOW.

OCTOBER 27TH AND 28TH.

FOR the last two years no Chrysanthemum Show has been held in this town, but a pleasant reunion took place on the above dates, the Exhibition being held in the Victoria Hall, a capital site, affording abundance of light and ample space for visitors to view the exhibits, and a capital Show it was. The cut blooms were arranged on long tables running the length of the building, small Palms and the plants for table decoration being placed in lines down the centre of each. Groups of Chrysanthemums were arranged at the end, and an imposing display of miscellaneous plant groups down one side, and with numerous specimen Palms dotted about the Hall, a pleasing effect was produced. Mr. C. S. Fudge, the energetic Secretary, and his assistant, Mr. H. Dallison, deserve every praise for the arrangements. The entries were numerous in all classes, the exhibits so uniformly good that close competition was the result.

Cut blooms, owing to their greatest numbers, deserve first notice. The premier class was for twenty-four distinct varieties, half to be incurved and the remainder Japanese. Five competed. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rooksbury Park, Wickham, Fareham, succeeded in taking first honours by the superiority of his incurved, which were of good size and well finished, the Japanese being rather weak. The names were Condor, Mrs. Irving Clark, Avalanche, Louis Boehmer, Sunflower, Madame J. Laing, Volunteer, W. H. Lincoln, Edwin Molyneux, Puritan, Sarah Owen, and Stanstead White. Incurved: Lord Alcester, Queen of England, Golden Queen of England, Empress of India, Violet Tomlin, Golden Empress, Alfred Salter, Mr. R. Mudie, Jeanne d'Arc, Princess of Wales, Lord Wolseley and Novelty. Mr. J. Agate, Havant, was an exceedingly close second, his Japanese being remarkably heavy and good. Vivand Morel (certificated), Pelican, Mrs. Falconer Jameson, Avalanche, Mrs. A. Hardy, were the most noteworthy. Mr. G. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, was third. Seven competed in the class for twenty-four in not less than twelve varieties. Mr. Inglefield, with good incurved and Japanese, winning rather easily from Mr. Agate, who staged all Japanese. Mr. Penford, gardener to Sir F. Fitzwygram, Bart., M.P., Leigh Park, Havant, was third.

For twelve incurved, distinct, Mr. N. Molyneux was an easy first with large well-finished blooms of Empress of India, Queen of England, Golden Queen of England, Lord Alcester, Alfred Salter, Golden Empress, Jeanne d'Arc, Violet Tomlin, Princess of Wales, Lord Wolseley, White Venus, and Novelty. Mr. Inglefield second; and Mr. T. H. Crasp, gardener to Lord Wimborne, Canford Manor, Wimborne, third. Mr. Trinder, gardener to Sir H. Mildmay, Dogmersfield Park, Winchester, occupied the premier position for twelve Japanese, with large and brightly coloured blooms of the following:—Avalanche, Mrs. F. Jameson, Stanstead Surprise, Etoile de Lyon, Madame C. Audiguier, Sunflower, M. J. M. Pigny, W. H. Lincoln, E. Molyneux, Condor,

Boule d'Or, and G. Daniels. Mr. Inglefield second; Messrs. Elcombe, Bowsey, third. For twelve blooms in not less than six varieties eleven competed. Mr. Agate first, with a capital stand; and Mr. J. Allen, gardener to Captain The Hon. V. Montague, Wherwell Priory, Andover, second. Anemones were staged in good condition by Mr. Penford and Mr. Agate, the former winning with both Show and Japanese varieties. Mr. Agate staged the only Pompons, but so good were they that the first prize was awarded. Mr. Busby, gardener to F. Millan, Esq., Thornhill Park, Bitterne, was placed first for a group of Chrysanthemums arranged for effect, with plants carrying good blooms and foliage. Mr. H. Innes, gardener to Miss Buchan, Wilton House, Southampton, was second.

The best specimen plants were staged by Mr. E. Rose, gardener to Dr. Aldin, The Firs, Bassett, Southampton, such varieties as Lady Selborne, Bouquet Fait, M. Bernard, and Maiden's Blush being well shown.

Fruit made an imposing display. For three varieties of Grapes, one bunch of each, Mr. N. Molyneux won easily with Muscat of Alexandria, Gros Colman, and Gros Guillaume. Mr. Hall, gardener to S. Montague, Esq., M.P., South Stoneham House, Southampton, was second. Third, Mr. Budd, gardener to F. Dalgely, Esq., Lockerby Hall, Romsey, with very fine Alicante. Mr. Bushby took the premier award in the class for black Grapes. Mr. Trinder was second, and Mr. Inglefield third. For three bunches any white Grapes Mr. Chalk, gardener to G. Read, Esq., Westwood, Wilton Road, Salisbury, staged capital Muscat of Alexandria for the first prize. Mr. Inglefield second, and Mr. N. Molyneux third. Mr. Innes was first for two bunches black, and Mr. J. Allen had a similar position for two bunches any black variety. Mr. Hall had the heaviest bunch of Grapes, Alicante, 4½ lbs. Apples were strong features. For six dishes, distinct, Mr. Bushby first with fine fruit. Mr. Hall second. For four dishes of dessert varieties Mr. Crasp was first with highly coloured fruit, as also were his six dishes of Pears, with which he won the premier award.

Vegetables were as usual a strong feature. For eight varieties Mr. Hall won, Mr. Bushby second; and for six varieties Messrs. Inglefield and N. Molyneux were placed in the order named.

Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Park, Bishopstoke, staged an admirable miscellaneous group of plants, and was awarded first honours; Mr. W. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, second. Mr. Carr had a good collection of Orchids in the class set apart for them.

Japanese Chrysanthemum Vivand Morel received a first class certificate. It is a full flower, measuring 9 inches in diameter and 6 inches deep, the florets of a semi-drooping character, quite of the Madame C. Audiguier style of colour.



## FRUIT FORCING.

PEACHES AND NECTARINES.—*Earliest Forced Trees*.—Ripe fruit being required in late April or early May, forcing must commence about the middle of November where the houses are planted with such varieties as Hale's Early, Stirling Castle, and Royal George Peaches, along with such Nectarines as Lord Napier and Dryden; but where the trees consist of Alexander, Waterloo, Early Beatrice, Early Rivers, and Early Louise Peaches, with Advance Nectarine, forcing, to have fruit ripe at the time named, need not commence in earnest until the new year. All points considered, there is no better early forcing Peaches than Stirling Castle and Royal George. The house should be closed about the middle of November, using no fire heat unless the weather is frosty. Give inside borders a thorough soaking of water, and if the trees are weakly supply liquid manure, but not too strong, which by the conversion into assimilable plant food taking place in the soil tends to cause activity at the roots, and conduce to a more vigorous expansion of the buds. The house may be kept close, not allowing the temperature to exceed 50° without full ventilation, syringing the trees in the morning and early afternoon of fine days, admitting air abundantly whenever the weather is bright, employing fire heat only to exclude frost, for the slower the trees are excited the stronger will be the blossom. Outside borders should be well protected with about 4 inches thickness of leaves, with a little litter over them to prevent their displacement by wind. Tarpaulin or shutters may be applied at the top to prevent the soil becoming chilled by heavy rains and snow, but they ought not to remain on constantly, merely using them in very inclement and very severe weather.

*Succession Houses*.—The trees are later than usual in casting their foliage, and must not be hurried by removing them forcibly, but admit air freely at night, keeping the houses rather close in the early part of the day, and maintaining a dry atmosphere seek its gradual maturation when the leaves will part freely from the trees. When the leaves are all down unfasten the trees from the trellis, perform any pruning required, cleanse the house thoroughly, paint the woodwork and trellis if necessary, and dress the trees with an insecticide. Secure the trees to the trellis, leaving room in the ligatures for the branches to swell, as tight tying is one of the most prevalent causes



of gumming. Remove the surface soil down to the roots, and supply fresh loam rather stiff, containing about a fortieth part of steamed bonemeal and a twentieth of wood ashes. Give a thorough supply of water to inside borders of houses with fixed roof lights, but it is better to remove the roof lights and allow the borders to become thoroughly soaked by the autumn rains.

Any lifting and root-pruning of trees not in a satisfactory state should be attended to whilst the leaves are upon the trees, not, however, until the foliage becomes mature, and then acting with dispatch. If fresh trees have to be introduced it should be performed when they are safe for removal—namely, when the leaves part readily from them or as soon as they are nearly off the trees. The best description of trees for planting in houses are those three or more years trained to walls or to trellises under glass, and prepared by annual or biennial lifting. Such trees transplant safely with abundance of fibres. Carefully planted they can be forced the first year with every confidence of a crop if not started before the new year, not brought on too rapidly, and not over-cropped. It is always desirable to select trained trees in bearing in preference to planting young trees that are not furnished with some bearing wood, but if young trees must be planted select such as have a well furnished base, free from gum, not very strong in the wood, and that well matured.

*Late Houses.*—The fruit except on a few of the latest trees, is now nearly all gathered, and the wood that has borne fruit and not required for extension should be cut out, as nothing is so prejudicial to late trees as too much wood. If the trees are young and not ripening the wood well, form a trench about one-third the distance from the stem the trees cover in height of trellis, and down to the drainage, so as to detach the roots, and after remaining open a fortnight, fill the trench firmly, adding calcareous matter to the soil if deficient of that substance. This will check the tendency to late growth and induce wood ripening. The surface soil in the undisturbed portion should be removed down to the roots, supplying fresh material, or replacing the old soil after adding some calcareous matter, and give a good watering. The trees will push fresh roots, and ripen the wood, but lifting must not be practised whilst the wood is soft and the leaves green and sappy, or the check will cause the wood to shrivel. Trees judiciously operated upon at the roots invariably set the blossoms well after operations of this character, the roots in lifting being laid in again carefully and kept well up to the surface.

*FIGS.*—*Early Forced Trees in Pots.*—Those intended for affording fruit at the close of April or early in May will now need dressing with an insecticide, softsoap solution 4 ozs. to the gallon of water answering, applying in a tepid state with a brush, being careful when using the solution not to injure the points of the shoots or rub off the embryo fruits. Very little pruning will be necessary, the trees having been regularly stopped during the growing season, but if the growths are too crowded and irregular they may be thinned to render the trees symmetrical. The house in which the trees are forced should have the wood-work and walls washed with hot water, afterwards whitewashing the walls with hot lime and sulphur. A mild bottom heat is almost a necessity to a successful swelling and perfecting of the earliest crop, the pots being raised upon loose bricks pedestal-fashion in the positions they are to occupy in the bed, and the pit filled with Oak or Beech leaves pressed firmly. The depth of the pit needs to be 2½ to 3 feet, with a third of stable litter mixed through the leaves; for leaves alone the depth should be 4 to 4½ feet. Care must be taken to avoid over-heating, not allowing the heat about the pots to exceed 65° until growth takes place. The trees should be started about the middle of November, bringing them forward very gently, keeping the house close and moist by sprinkling twice a day in bright weather, employing fire heat to maintain a temperature of 50° at night, 55° by day, and with sun heat 60° to 65°. The soil in the pots must be brought into a thoroughly moist condition by needful watering.

*Early Forced Planted-out Trees.*—The trees should now be untied from the trellis, and the needful pruning effected. Those with the roots restricted to small borders will only require to have the shoots thinned where too crowded, cutting back growths extended to the limits of the trellis and not necessary for fruit production, so as to allow space for successional growths. Trees that have not the roots restricted will require cutting back at the upper part of the trellis, allowing room for the extension of the lower branches; but luxuriant trees may be root-pruned, or the cutting-out of growths will only tend to render the trees more unfruitful. The trees may be washed with soapy water as advised for trees in pots, and be secured to the trellis loosely. Remove the loose soil, remains of mulchings, point over the surface with a fork, and apply a surface dressing of fresh loam not more than 2 inches thick; sprinkle over that 2 ozs. per square yard of steamed bonemeal, and apply a mulch of partially decayed manure, lumpy yet short. Give a good watering; ventilate freely at all times, except when frost prevails, when keep closed, and turn on heat to exclude it.

*Succession Houses.*—The trees are not ripening their wood well, and it will be wise to turn on the heat in the morning, and admit air only to induce a circulation, throwing the windows open at night, the heat having been turned off at midday. This will assist the maturation of the foliage; but any unfruitful trees must be severely root-pruned, and the roots restricted to moderate sized borders, depending more upon active feeders near the surface, encouraged by light mulchings, than a large extension of roots. These operations must be performed when the leaves give indication of falling. Make the soil firm, employing one-sixth of old mortar rubbish and a similar proportion of road scrapings.

Figs always do better with the roots restricted to moderate sized borders, and are more manageable and fruitful when the roots are confined to limited space than those with an unlimited rooting area. Prune the trees when the leaves have fallen, cleanse the house, put everything into order. Dress trees that have been infested with insects with an insecticide. Scald the woodwork and walls with hot water, keeping it off the trees, yet washing them with a warm soapy solution before applying the insecticide. Keep the house cool and dry, yet exclude frost.

*Late Houses.*—Excessively luxuriant trees should be attended to in lifting and root-pruning as advised above, and Fig trees can hardly have the roots too much restricted for fruitfulness, being also more under control, and can be fed according to requirements. Trees in unheated houses should have free ventilation, and when the leaves fall the trees must be unloosed from the trellis, be tied together in convenient bundles, and made safe against frost with some straw or fern over them, encasing the bundles in mats. In heated houses this is not necessary, but the trees in those must not be exposed to severe frost, or they are liable to be injured, therefore a little warmth will be necessary in severe weather. Trees in cool houses should have the roots protected by a covering of dry material.

#### PLANT HOUSES.

*Zonal Pelargoniums.*—Plants that have been protected for some weeks from heavy rains will come quickly into flower if placed in a temperature of 60°. If possible give them a span-roofed structure, where they can be arranged close to the glass. Apply a little artificial manure to the surface of the soil, and the roots will quickly come to the surface and take possession of it. Water in the morning carefully, and throw about no more water than is really necessary. Admit air daily to prevent the foliage and blooms damping. Few plants are more useful for supplying cut flowers in abundance than Pelargoniums during the dull days of autumn. The season has been unfavourable for ripening their wood, but plants that were potted firmly and kept in a small size should be promising. Place a good number of young plants into 5-inch pots for flowering early in the year; pot firmly, water with care, and keep the plants slowly moving in an airy structure, where the temperature does not fall below 45° to 50°; pinch the shoots if they need it for the last time.

*Cinerarias.*—The earliest plants will soon come into flower if placed in any structure that does not fall below 50°, and can be kept moderately close. These plants will bear slight forcing if a close, confined atmosphere is not attempted. Throughout November and December a few with blue flowers are especially serviceable, and are telling in the conservatory amongst Roman Hyacinths, Solanums, Pelargoniums, Chrysanthemums, and similar plants. Repot later plants as they need more root room; once they are checked they quickly produce their flower spikes. It is useless to pot those that are showing flower spikes. If these are not needed in small pots they can be thrown out. It is a good plan to pot a few more than are required for spring flowering, so that those that show for flowering can be thrown out as soon as they are discovered. The latest supplies should be ready for 4 and 6-inch pots respectively. If large specimens are needed, earlier plants that are not showing flower may be placed into 8 and 9-inch pots. Do not allow these plants to suffer by an insufficient supply of water, and keep them cool and on a moisture-holding base. All plants that are well rooted in their pots may have clear soot water every time they need water. Watch for aphides, and fumigate as soon as they are observed.

*Primula oboeonia.*—Place into 5-inch pots all plants intended for spring flowering; grow them in the greenhouse, or a cool frame will do for the present. Early plants will soon come into flower in a temperature of 45° to 50°. Plants raised from seed sown as soon as it was ripe, should be pricked off singly into pans or boxes and grown on a shelf in the greenhouse.

*Chinese Primulas.*—Those intended for spring flowering should be placed into 4-inch pots. Grow these close to the glass in a cool structure, where they will be safe from frost. If stood on a cool moist base growth will only be slow, which should be aimed at, for if drawn up weakly they only flower poorly in spring, and are liable to damp. Admit air liberally to these as well as to larger plants that are not required in bloom for the present. Double varieties should be placed where they can have gentle warmth, and they will commence flowering profusely and yield quantities useful for cutting. A moderately dry atmosphere suits these best. They are very liable to damp in a cool moist atmosphere.

*Callas.*—The main stock of these should enjoy a light but cool house, where they can be well syringed and freely watered. Admit abundance of air to keep them dwarf and sturdy. Where these are appreciated for Christmas select the strongest and most promising, in fact a good number may be picked up that are already showing their spikes. Keep them a little closer, but do not attempt to force them, or their spathes will not develop properly; they can be brought gradually forward, but cannot endure forcing. Give plenty of air, or they will soon run up weakly.

*Bouvardias.*—These only move slowly in a cool house and are liable to damp. Where it is practicable place them in an intermediate structure, where air can be admitted daily. Water carefully and give weak stimulants frequently, or apply artificial manure to the surface to keep their roots moving, which is the secret of a long succession of flower. When well cared for the plants continue to grow and flower, provided they have been well grown and ripened.

*Solanums.*—Where an increase of stock is needed seed may be sown in heat from well-berried plants. Pot singly as soon as they are large enough to handle, and grow them in a temperature of 60°.



*Cyclamen*.—Place into 5-inch pots seedlings that were raised in February and are not needed in flower before the spring. Arrange these close to the glass, where the temperature at night will range about 45° to 50°. Transplant seedlings into pans, and grow them on a shelf close to the glass in a temperature of 60°. Give plants that are flowering clear soot water; if kept in a structure about 55°, and air is admitted freely during the day, they will flower freely and damping will not take place. Be careful these plants do not become dry at their roots.

*Calceolarias*.—Pot these as they need more root room. The earliest plants should be placed into their largest size. Grow them for some time in cold frames. The moist conditions of these structures suit them well. A dry atmosphere is ruinous to these plants, they quickly become a prey to aphides.

*Libonias*.—Remove these from the greenhouse and cold frames into a temperature of 50°. If kept too cool they lose their foliage, and the beauty of the plants is destroyed. If the plants have been well grown and fully exposed to the sun they will be full of bloom, and will quickly develop their small but showy flowers if given gentle warmth.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### THE STRAW HIVE.

THIS was the first thing the modern school attacked as being totally unfit for bee-keeping, and yet was the only one used to demonstrate humane bee-keeping at all bee shows, while never one single manipulation was made to show the superiority of the frame hive to prove how the promised pounds for pence were to be realised. It was freely stated that honey from modern systems would bring to the cottager 2s. per lb. instead of less than half that sum. This sounded well in the ears of novices, while it suited the interests of dealers, but strange to say that price never was realised, but it has been oftener sold at less than the lowest figure mentioned, and simply reversed the argument. For, with all the advantages the frame hive possesses over the straw hive, it is not on record that the frame hive has been more profitable than the straw hive, but the opposite. In the first place the appliances required under the frame hive system cost pounds for shillings under the straw system, while the honey from the latter is often superior to that of the former, which in too many cases contain 30 per cent. of water. Many of the keenest competitions in strained or dripped honey has had the prizes awarded to that from straw hives. This argument is more truthful than may be appreciated by some. The injudicious use of the extractor has had much to do with putting on the market an inferior quality of honey, and the too lavish use of foundation in supers has rendered much of the comb unpalatable. Taking all into consideration the economist will seek in vain for the advantages in that direction, of the greater profit said to be found in keeping frame hives.

Being in possession of the necessary plant for keeping bees on the most approved style, I would not alter my method, nor would I even advise anyone to adopt straw hives before frame hives, neither would I advise anyone to discard straw hives in favour of frame hives when the bee-keeper is satisfied with those he possesses, but rather try and show the best method by which straw hives can be kept and managed properly, and to do this no better plan exists than the one that has been carried out from time immemorial.

Many cottagers made their own straw hives as they now do wooden frame hives, and thereby saved a considerable sum. They appear to have had from a very remote date the value of young queens in stock hives. Few bee-keepers of the ancient school would have entertained the idea of having bees more than a year old, and fewer the notion that queens could be kept profitably up till four or more years. In my early days I never knew any that would have entertained such "modern" notions. Starting with a certain number of hives with their floorboard, costing about 3s. a piece, a very moderate sum compared with frame hives nowadays, not speaking of the extras, and taking particular care of empty new made combs for the subsequent year for hives, and as guides

to supers, which foundation has supplanted. Every stock hive was expected to swarm twice, sometimes the prime swarm was all that issued, and at other times occasionally three swarms issued, so that the average were commonly maintained at one swarm and one cost.

#### OLD COMBS.

These were not tolerated, so that from the stock hive raised from a young queen the previous year, at the end of twenty-one days after the first swarm was driven, the sealed light coloured combs were taken, the seals first taken off, as modern extractors do, and further sliced to the midrib, the contents all falling into a basket suspended on two chairs. The honey as it dripped from the basket fell into a tapered muslin bag, and from it into earthenware jars, considered then as the only utensil honey would keep in. The blackened combs, and those containing pollen and unsealed honey, were either pressed and the contents given to the bees, or made into mead or beer. Sometimes the driven bees were joined to the first swarm after the old queen had been deposed, or to the second, and at other times was allowed to begin in an empty hive afresh, and all three were like the rest, taken to the Heather, when on their return the best combed hive was selected, evenly straight, and at right angles to the entrance, for bee-keepers then in Scotland knew what they were about. Unless when there was an order for bees the three were joined into one, and supers and sealed honey taken for sale, and the nice pieces of comb kept for as already stated. When joining the swarms together pease meal was liberally dusted upon the lots, then by a vigorous riddling motion the whole were thrown together, and the union was complete as it was satisfactory.

#### PREPARING FOR WINTER.

The number of bees was a guarantee against the influence of a low temperature; but in addition to the comfort derived in that way, it was desirable the hive be kept thoroughly dry, so after covering the hive and the crown with "shoes," the refuse from lint, a straw hackle covered all and over the floor while it was lowered a little at the landing, so that no moisture could penetrate the hive. In fairly good seasons I have known close upon 300 lbs. of honey taken from one spring stock hive, and yet that is the hive so much condemned. The wax was considered to be enough for compensation for working and moving the bees to and from the fruit blossom in spring, the Clover in summer, and the Heather in autumn.

#### BEEES TO BE KEPT DRY DURING WINTER.

It will be observed the ancients spared no pains to secure absolute dryness in their hives, but whether this arose from a knowledge of the way damp acted upon the bees or simply from observations that bees suffered when the hive was damp I am not aware, but the evidence before us is conclusive enough that they dreaded the damp in those days even more than the modern bee-keepers do, because we find the former doing all in their power to resist it, while many modern bee-keepers do the reverse, actually encouraging damp within their hives, although they sometimes cry out against it.

The double-eased hive and the waterproof material close upon the frames, as well as the bee-way left between the waterproof and the combs, have all a tendency to create damp within the hives, with the result that there is always a percentage of deaths from the above causes, while in the ancient management of straw hives it was rare for a hive to be lost during winter.

I am opposed to the belief that bees hibernate during winter in the proper sense of the word. Still I am of the opinion that in a comparative sense they do, or rather to a degree only do they become dormant, and the greater the degree of this dormancy the better is the health of the bee maintained, and the lower temperature it will stand. Although the hum of the bee is never silenced, still the damper the interior of the hive is the louder is the hum, and *vice versa*. Doubtless a hive of bees during winter



in a semi-torpid state loses the immediate use of their wings, and other members are similarly affected, but the sting appears active at the moment of death.

Bees become torpid by degrees according to the state of the hive, and even the greater the torpidity the greater the health is maintained. We should, therefore, use every means in our power to reduce damp and currents of cold air in hives to a minimum, for without these conditions bees are always at the mercy of the weather, and we can never say till the winter is past that our bees are safe.

#### STRAW HACKLES.

This is one of my most ancient customs of covering wooden hives, and cannot be very well improved upon. It is certainly superior to any modern double case. I plaited the straw to a card similar to those put behind horses in some stables, only heavier. This was tied round the hives at the top, and an oil-cloth covered all. In this way it lasted for years. Where straw is plentiful the oil-cloth may be dispensed with, as by itself it makes a good protector.—A LANARKSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

Geo. Cooling & Sons, Bath.—*Catalogue of Fruit Trees, Roses, and Shrubs.*

Little & Ballantyne, Carlisle.—*Catalogue of Trees, Shrubs, &c.*



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Book (F. D. W.).**—The book referred to was Mr. Wright's "Mushrooms for the Million," which does not, however, include anything on Cucumber culture.

**Cultivated Brambles (F. R. S.).**—By far the most productive crops we have seen were of the Parsley-leaved Bramble. We have seen their long growths secured horizontally to wires stretched between tall posts, forming screens or hedges laden with heavy clusters of black fruits in October. Good soil is essential, also well-rooted plants, these to be cut back after planting.

**Herbaceous Border (Perplexed).**—By all means keep off the clay border so long as it remains saturated. If you take advantage of favourable weather in spring, when the soil is friable and some of the plants starting into growth, then reduce the strong plants and encourage the weak with free fresh soil, the results will be as good as if the work were done in the autumn, perhaps better. If there are bulbs in the border spring renovation is advantageous, as their growth is then visible, and there is small excuse for their being injured in digging.

**Galls on Pear Leaf (R. G.).**—These woolly excrescences appear to be the work of a species of *Phytoptus*, or gall mite, belonging to a family the transformations of which are imperfectly understood. It is considered that they are six-legged while young, eight-legged in their mature condition. A number of them of different ages may be observed living in the same gall upon the "happy family" principle. It has been noticed that they will infest one tree year after year, while others of the same kind standing close remain untouched. Their journeys, whenever they occur, are at night, it is believed. No one has suggested any method of checking their propagation, except the removal and destruction of infected leaves.

**Coping for Garden Wall (J. D.).**—No material answers so well for coping as stone, it being of a composition not liable to be injuriously affected by frost nor perish by exposure to the weather. Yorkshire stone and some others are of that description. You could not have anything

better. Cement copings are excellent, but some which are so called are worse than useless because they are composed of too much sand (much of it loamy) and too little cement. Properly constructed they are as durable as stone. Tile copings are very serviceable and cheaper than stone or cement, but they should be  $2\frac{1}{2}$  inches thick, and made in one piece, so as to project over the wall 3 inches or more, and have a groove in them three-quarter inch from the edge to prevent the wet running down the wall, and be sufficiently burnt to resist weather influences. The groove is of very great importance.

**Sowing Orchid Seed (R. S.).**—Experience has shown that there is no method equal to scattering the seed on the sphagnum in which a plant is growing freely and receives proper attention in watering, so that the sphagnum is kept fresh. No attempt must be made to cover the seed, and it must not be displaced by watering. The seed may be sown as soon as ripe, or in early spring. It is delicate work raising Orchids from seed, then establishing the plants, and only experts or very careful cultivators can hope to succeed. If you succeed in raising plants you must be prepared to give them the best attention for about ten years before they will flower. Some seedlings are fifteen years before flowers are produced, and then the varieties may not be superior, but, on the other hand, some may prove of value.

**Annuals and Cactus Dahlias for Exhibition (W. S. S.).**—You do not say whether hardy annuals only are required, or at what time of year they are to be shown. With further information on these two points we shall be glad to give you the advice required. *Centaurea cyanus* is a true annual, but *Mignonette* is not, though it is usually treated as such under cultivation. The value of Cactus Dahlias for exhibition depends upon whether classes and prizes are specially provided for them or not. At the National Dahlia Society's last Show three classes were devoted to them, with prizes ranging from 30s. to 5s. The same Society states that "Dahlia blooms of the show type should be shown on green stands. Stands for twelve blooms should measure 24 inches by 18 inches, the height in front being 3 inches, but at the back 9 inches; and in like proportion for the other numbers to be staged." No special stand is mentioned for the Cactus varieties, but the above will serve as a guide.

**Gros Colman v. Gros Colmar Grape (A Forty-years Reader of the Journal).**—Under the title *Grosse Kölner* the following history is given in Dr. Hogg's "Fruit Manual," fifth edition, page 392. "It was first introduced to this country by the late Mr. Rivers of Sawbridge-worth from M. Vibert of Angers; but finding it did not ripen with the same treatment as Black Hamburgh, he discarded it. It was introduced a second time by the late Mr. Standish of Ascot from M. André Leroy of Angers, and through him its popularity was established; but it is mainly through the successful cultivation of it by Mr. W. Thomson of the Tweed Vineries, that its reputation is so widely extended. The first trace I find of it in Western Europe is in De Bavay's Catalogue of 1852, where it is called Gros Colman; then I find it in that of Jacquemet-Bonnefont of Annonay, for 1855, under the name of Gros Colmar, and both of these are corruptions of *Grosse Kölner*." In pomology, as in botany and other sciences, precedence is given to the oldest name, and according to that rule those who adopt Gros Colmar are undoubtedly incorrect.

**Pears not Swelling (E. W.).**—The cause of the fruit not swelling is scald—*Fusicladium dendroticum pyrinum*, *Fckl.*, which cripples its growth, and infesting the leaves causes them to fall. You have tried lifting and used nearly all artificial manures in the market without any effect other than to make the trees produce more wood. Lifting or judicious root-pruning ought to check the tendency to produce wood, and we advise that to be done without delay. The analysis is very instructive and affords a key to the situation—namely, the phosphoric acid is very low, 14 per cent. fertile clay often contains 0.38 per cent. Potash is represented by 0.43; a Pear soil should be alkaline, some containing 2.73 per cent. of potash. Soda also is meagre. A Pear soil contains, in some cases, 1.98 per cent. Your soil needs phosphatic, potassic, and sodic elements. We advise steamed bonemeal 5 lbs., kainit 3 lbs., mix, and apply at the rate of 4 ozs. of the mixture per square yard—2 ozs. in autumn, and a similar quantity in spring when the buds begin to swell; but none of those will destroy the germs of the "spot" on the trees, therefore we advise spraying them with a solution of sulphate of copper, 1 lb. to 25 gallons of water, as the wood is manifestly soft, otherwise a 10 per cent. solution is recommended when the wood is firm and well ripened, applying it just before or when the buds begin swelling, and spray the trees just before the blossoms expand with carbonate of copper (precipitated), 1 oz. to 12½ gallons of water, keeping well suspended by one person syringing into the vessel whilst another applies it as a spray. Repeat the carbonate of copper in suspension directly the petals have fallen, and afford two more sprayings at intervals of fourteen days from the first spraying after the petals have fallen. Unless the season be wet those will be sufficient, but if very wet repeat at intervals of seven days, continuing the spraying up to the end of June. Precipitated carbonate of copper does not injure the foliage like sulphate of copper solution, Bordeaux mixture, or ammoniacal carbonate of copper solution; but the latter may be used effectively if you first ascertain the safe strength at which to apply by experimenting on a few growths; yet it must be understood that the solution must not be prepared beforehand, but made as wanted, for Bordeaux mixture and all sulphate of copper solutions undergo chemical changes, and unless these are exercised on the fungus the fungicide is useless.



**White Cup** (*Young Subscriber*).—The plant you have under this name is probably *Nierembergia rivularis*, of which we give an illustration in fig. 74. The plant was found by Miers, about the year 1845, growing on the grassy banks of the Rio de la Plata, South America, "the prostrate branches creeping among the grass, above which rise its pretty white flowers." Indeed, under cultivation, and when well established, there are few similar plants that contribute so much in such little space towards the beauty of the rockwork or border as this little gem. Although it seems to prefer a rockery or a similar situation where its roots get curbed, it will do equally well on dry banks or flats, and a large patch I saw on the flat fully exposed was a sight never to be forgotten, so thickly were the large beautiful white cups studded among



FIG. 74.—NIEREMBERGIA RIVULARIS.

the leaves on short stalks like so many *Campanula*-shaped Mushrooms. Those not hardy in the open air may be used with great advantage indoors in the shape of trailing or creeping plants. A hanging basket made with *N. gracilis* as an edging is extremely pretty, besides having the advantage of being permanent. Then there is *N. frutescens*, a strong shrubby species of considerable worth for a greenhouse or conservatory, as it makes fine bushes in a short time, flowering more or less incessantly. *N. rivularis* rarely grows more than an inch or two in height, having long prostrate creeping branches rooting as they spread away from the centre, which requires filling up occasionally. The leaves are alternate, oblong, blunt at the summit, on a long slender stalk; the corolla, shaped like a *Campanula*, is upright, about 2 inches in diameter, pure white, and very handsome. It flowers through the summer, and may be increased by division.

**Names of Fruits.**—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*W. S., Derby*).—1, Brown Beurré; 2, Williams' Bon Chrétien; 3, Beurré d'Amanlis; 4, Red Doyenné; 5, Figue de Naples; 6, Beurré Diel. (*C. B.*).—1, Betty Geeson; 2, Lord Suffield; 3, Piles Russet; 4, Worthless; 5, Not known; 6, Dutch Mignonne. (*D. Mackie*).—1, Moorfowl's Egg; 2, Beurré Diel. The Tomatoes are attacked by a fungus, which has been recently illustrated in the Journal. (*James Grant*).—1, Beurré Hardy; 2, Beurré Clairgeau; 3, Uvedale's St. Germain; 4, Spanish Warden; 5, Beurré Superfin. (*J. J. & S.*).—We cannot trace these to any recognised names. We believe them all to be local varieties. (*C. W. D.*).—Beurré Bachelier. (*L. Black*).—1, Chaumontel; others not in condition to be named. (*T. T.*).—1, Ne Plus Meuris; 2, Napoleon; 3, Beurré Clairgeau; 4, Comte de Flandres. (*Capt. Symes*).—2, Blenheim Pippin; 4, Louise Bonne of Jersey; 26, Comte de Lamy; 27, Beurré Sterckmans. (*J. C.*).—1, Marie Louise d'Uccle; 2, worthless; the Fern is *Adiantum Pacoti*. (*W. N. C.*).—1, Autumn Neils; 2, Fondante de Charneu; 3, Sinclair, small fruit; 4, Beurré d'Aremberg; 5, Verulam; 6, Catillac. (*C. H.*).—Trumpington. (*Biddles & Co.*)—Kerry Pippin. (*W. J. Browne*).—1, Herefordshire Costard; 2, Gloucestershire Costard; 3, Herefordshire Beefing; 8, Beurré Sterckmans; 9, Bergamotte Esperen. (*W. S., Frome*).—1,

Beurré Langelier; 2, Marie Louise; 3, Beurré de Coster; 4, worthless, graft the tree; 5, No doubt a local variety. (*Orston*).—1, Louise Bonne of Jersey; 2, Allen's Everlasting. The flower is *Sparmannia africana*. (*W. S.*).—1, Cox's Pomona; 2, Flemish Beauty. (*Perseverance*).—1, Brown Beurré; 2, Beurré d'Aremberg; 3, Josephine de Malines; 4, Nouveau Poiteau; 6, Yorkshire Greening. (*Scottie*).—The Pear is Ne Plus Meuris. The Apples probably local varieties.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*G. M.*).—It appears to be the variety of *Croton* known as *interruptus*, but we cannot be certain about so poor a specimen. (*J. S. T.*).—*Spiraea Bumalda*. (*W. W.*).—1, *Berberis Thunbergi*; 2, *Liriodendron tulipifera*; 3, *Liquidambar styraciflua*. (*S. B.*).—1, *Odontoglossum grande*; 2, *Oncidium Forbesi*; 3, *Cattleya Bowringiana*; 4, *Cypripedium Spicerianum*. (*J. G.*).—We cannot undertake to name Conifers without cones, but names can be had by comparing branchlets with different kinds growing in nurseries. Your questions will be answered another week. (*G. K. W.*).—Such specimens as you have sent cannot be identified.

## COVENT GARDEN MARKET.—OCTOBER 28TH.

SUPPLIES short owing to bad weather.

## FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, ½-sieve ..	1	0	4	0	Oranges, per 100 ..	4	0	9	0
Cobs, Kent per 100 lbs. ..	35	0	37	6	Peaches, per doz. ..	1	0	6	0
Grapes, per lb. ..	0	6	2	0	Plums, ½-sieve ..	0	0	0	0
Lemons, case ..	15	0	20	0	St. Michael Pines, each ..	3	0	8	0

## VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus, per bundle ..	0	0	0	0	Mushrooms, punnet ..	1	6	2	0
Beans, Kidney, per lb. ..	0	4	0	0	Mustard & Cress, punnet ..	0	2	0	0
Beet, Red, dozen ..	1	0	0	0	Onions, bunch ..	0	3	0	5
Carrots, bunch ..	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen ..	2	0	3	0	Parsnips, dozen ..	1	0	0	0
Celery, bundle ..	1	0	1	8	Potatoes, per cwt. ..	8	0	4	0
Coleworts, doz. bunches ..	2	0	4	0	Salsafy, bundle ..	1	0	1	6
Cucumbers, doz. ..	1	0	2	6	Scorzonera, bundle ..	1	6	0	0
Endive, dozen ..	1	3	1	6	Shallots, per lb. ..	0	3	0	0
Herbs, bunch ..	0	3	0	0	Spinach, bushel ..	2	0	0	0
Leeks, bunch ..	0	2	0	0	Tomatoes, per lb. ..	0	4	1	0
Lettuce, score ..	0	9	1	0	Turnips, bunch ..	0	0	0	4

## AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms not plentiful in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	6	0	Mimosa or Acacia				
Asters, doz. bunches ..	4	0	6	0	(French), per bunch ..	1	0	1	3
" (French) doz. bchs. ..	9	0	15	0	Myosotis, dozen bunches ..	2	0	4	0
Bouvardias, bunch ..	0	6	1	0	Pelargoniums, 12 bunches ..	6	0	12	0
Carnations, 12 blooms ..	1	0	2	0	" scarlet, 12 bchs ..	4	0	6	0
Chrysanthemums, dozen bunches ..	4	0	12	0	Primula (double) 12 sprays ..	0	6	1	0
Chrysanthemums, dozen blooms ..	0	9	3	0	Pyrethrum, doz. bunches ..	2	0	4	0
Dahlias, doz. bunches ..	2	0	4	0	Roses (indoor), dozen ..	0	6	1	6
Eucharis, dozen ..	2	0	4	0	" (mixed), doz. bchs. ..	4	0	6	0
Gardenias, per doz. ..	1	6	4	0	" Red (English) per				
Gladiolus, dozen bunches ..	9	0	12	0	dozen blooms ..	0	9	1	0
Lapageria, 12 blooms ..	1	0	3	0	" Tea, white, dozen ..	1	0	2	0
Lilium longiflorum, 12 blooms ..	4	0	6	0	" Yellow, dozen ..	2	0	4	0
Lilium (var.) doz. blooms ..	1	0	3	0	Tuberose, 12 blooms ..	0	3	0	6
Marguerites, 12 bunches ..	2	0	4	0	White Lilac (French) per				
Maidenhair Fern, dozen bunches ..	4	0	9	0	bunch ..	5	0	7	0
Mignonette, 12 bunches ..	1	6	3	0	Violet Parme, French bch. ..	2	6	3	6

## PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralia Sieboldi, dozen ..	6	0	12	0	Evergreens, in var., dozen ..	6	0	24	0
Arbor Vitæ (golden) doz. ..	6	0	12	0	Ferns, in variety, dozen ..	4	0	18	0
Asters, dozen pots ..	3	0	6	0	Ficus elastica, each ..	1	6	7	0
Begonias (various), doz. ..	4	0	9	0	Foliage plants, var., each ..	2	0	10	0
Chili Plants, per dozen ..	6	0	12	0	Fuchsia, per doz. ..	4	0	9	0
Chrysanthemums, per doz. ..	4	0	9	0	Heliotrope, per doz. ..	4	0	6	0
" large, doz. ..	12	0	24	0	Marguerite Daisy, dozen ..	6	0	12	0
Coleus (various), per doz. ..	3	0	6	0	Mignonette, per dozen ..	3	0	6	0
Dracena terminalis, doz. ..	24	0	42	0	Myrtles, dozen ..	6	0	12	0
" viridis, dozen ..	12	0	24	0	Palms, in var., each ..	2	6	21	0
Erica gracilis, per doz. ..	9	0	12	0	Pelargoniums, scarlet, doz ..	2	6	4	0
" hyemalis, doz. ..	12	0	18	0	Solanum, per dozen ..	9	0	12	0
Euonymus, var., dozen ..	6	0	18	0					



## TECHNICAL KNOWLEDGE.

To "know all about it" must be very satisfactory to a farmer when sickness comes among his live stock, or blight or disease of any kind appears in his crops, for complete knowledge of the



cause not only enables him to apply the proper remedy but it also induces caution in practice. Always in everything prevention is better than cure. We should soon cease to hear of heavy losses among cattle or other animals of the farm if only to ordinary painstaking were united sound practical and scientific knowledge.

Quite recently, while on a railway journey, we got into conversation with two tenant farmers who were complaining of heavy losses among calves from hoose this autumn. One of them said a neighbour of his had actually lost ten calves, and, according to their account, this sad state of things was very general. "What a pity it is," said we, "that proper means are not taken to prevent such losses." This remark led to inquiry as to what could be done. Now one of these men said he once farmed 2000 acres, at the present time he farms 700 acres, yet he was quite ignorant of the cause and remedy of hoose. He possessed no technical knowledge of a matter of such vital importance, and just drenched any that had the husky cough which so surely betokens the presence of the hoose worms in the bronchial or breathing tubes.

How are such men to be protected against their own ignorance? We are told that County Council lecturers on agriculture are simply telling farmers over again what has been told so well in the Journals of the Royal Agricultural Society of England. Of course they are, and we only hope hard times and heavy losses may bring farmers sufficiently to their senses to induce them to attend the lectures. We would also urge upon the lecturers the importance of demonstration. Take for example the complaint in question. Let the lecturers go to the farms of those who have the good sense to invite them; let them take nosebags, sawdust, turpentine, and carbolic acid, the farmer providing hot water, and let them show the farmers how easily hoose worms are destroyed by inhaling the medicated vapour; only it must be insisted upon that all calves treated shall henceforward till spring or summer, according to weather, be sheltered in clean dry buildings.

Nor must the teaching stop here. The cause of hoose must be explained, and the possibility of prevention made quite clear. Never was there a better time to enforce this lesson. Calves that have been out on pasture since last spring have not thriven; they are low in condition, no matter how well they have been fed with cake or mixed dry food. The low summer temperature, the showery weather, the constant exposure, has proved too exhaustive. So much of the food has been absorbed in keeping up vital heat, that anything like plump, or as graziers term it "fresh" condition, was an impossibility.

In the midlands the dairy lectures have been attended so well, and they are doing so much good, that one feels hopeful the lectures on other subjects will have equal attention. Care must be taken not to make them too complex. They should be clear, fairly simple, and yet sufficiently exhaustive to bring the whole matter before the hearers. The lectures must not be too long either; short pithy lessons always tell best. If the lecturer can fix some fact of importance upon the minds of his hearers each time he addresses them, good work will be done and progress made. Such a reform and improvement in farming as it aimed at will not be effected by a single course of lectures, however excellent they may be. The work must be gradual if it is to be thorough, and the lectures should extend over three winters at least. By that time the importance of the work and its benefit to farmers will be understood, and then it is most probable that no winter will be allowed to pass by without lectures being looked for as a matter of course.

Farmers may be alarmed by the idea that improvement means expense. It means nothing of the sort; on the contrary, it will lead to economy of labour, time, and money. It will lessen expenditure, and will render farming more profitable, more certain in results; more profitable not only in the increasing yield of the

land, but also in the earlier maturity of live stock. Losses from disease or exposure would practically cease with thorough shelter and cleanliness, growth would be accelerated, and the maintenance of condition would be easy enough. Under this improvement, too, although the quantity of food used might not be less, it would be turned to much better account, and the profit upon expenditure would certainly be much higher.

#### WORK ON THE HOME FARM.

Look carefully after dairy cows now, and take them into yards at night with snug deep dry lodges for them to lie down in. Do not turn them out on very cold windy days, but on all fine days they should go out, as there is such an abundance of fresh growth, more rich in nutriment than is usually the case so late in the year. But keep them from cold and wet always, wet from above and wet from below in the guise of sodden litter or overflowing drains. Let all small or delicate cows have a separate yard. Cows are easily trained to go to a particular yard or ledge. Keep the milk of stale cows apart from that of fresh cows, using only the latter for making the butter required for home consumption.

Farm horses should now be kept in the stables at night. To keep them longer out on pasture is dangerous, as the risk of rheumatism from exposure to cold rains and frost is so great. See that horses have due attention after a heavy day on the land or a long journey by road. It is our interest, as it is our duty, to be kind to man and beast. Never forget that when a man comes to the stables late in the day, and possibly with his clothes wet through, the temptation to neglect the horses under his charge is very great.

Have food, water, and bedding got ready for him, and if possible let him have help also to rub down the horses. This is all in the master's interest, and it should also induce better service on the part of the man. It will do so if he has sufficient sense to realise that he is cared for and thought of. A hot bran mash is an excellent thing for a tired horse, and we use it frequently; that and a thorough rub down is a wholesome and refreshing thing before the horse gets its hay and corn. These are all trifling matters eminently worthy of close attention, for it is surprising how much ignorance and stupidity there is about horse management among men who have been with them all their lives. We were recently assured by a very worthy carter that it was particularly good for horses to lie out on pasture now. When pressed for a reason he could give none other than that he had always heard so. In this, as in all other things, the master's eye and judgment must be used for the protection of his property, and the guidance of ignorant though well-meaning men.

#### OUR LETTER BOX.

**Guernsey Cows (W. R. R.).**—The fact of your having bought a cow for £17 proves that they are to be had at low prices if only you watch for sale announcements in the right way. Pray do not forget that dealers of all men are the most unlikely to assist you in obtaining cheap cows. It is entirely a matter for yourself. Ours was a general statement founded upon results of sales, and it is quite possible you may hear of double the amount mentioned being given for pedigree cows or specially selected animals had from dealers.

**BARLEY COMPETITION.**—At the Brewers' Exhibition, London, which opened on Monday last, sixty-one English and twenty foreign competitors exhibited samples of Malting Barley. The first prize and champion cup open to the world were awarded to Webbs' Kinver Chevalier, shown by Mr. A. Tanner, Shrawardine, Shrewsbury; the second prize went to Mr. Estaugh for Webbs' Golden Grain; and the third to Mr. Combes for Webbs' Kinver Chevalier. This is the fifth annual competition that has been held, and on each occasion Messrs. Webbs' Barleys have won similar honours.

#### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.					Rain
1891. October.		Barome- ter at 329 and Sea Level.	Hygrome- ter.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature.			
			Dry.*	Wet.			Max.	Min.	In sun.	On grass		
		Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In	
Sunday .....		18	30.119	46.8	45.1	W.	50.0	58.5	41.6	95.8	36.0	0.157
Monday.....		19	29.479	52.2	52.0	S.	49.9	55.0	46.6	61.2	43.9	0.252
Tuesday ...		20	29.557	48.9	48.6	S.E.	49.9	57.3	42.6	75.1	35.3	0.021
Wednesday ..		21	29.227	55.0	52.6	S.W.	49.9	59.6	46.5	98.6	38.2	0.467
Thursday ....		22	29.123	52.2	51.6	S.	50.1	60.8	48.2	65.2	42.1	0.482
Friday .....		23	29.326	55.9	52.8	S.W.	50.9	56.4	48.9	91.2	49.3	—
Saturday ....		24	29.758	46.5	46.2	S.W.	50.3	52.0	42.9	73.1	35.1	—
			29.513	51.1	49.8		50.1	57.1	45.3	79.3	40.0	1.373

#### REMARKS.

18th.—Brilliant morning; cloudy at times in afternoon and evening.  
19th.—Wet from 1 A.M. to 4 P.M.; fair evening, lunar halo.  
20th.—Misty early; fine day, with occasional sunshine.  
21st.—Heavy showers early; bright from 10.30 A.M. to sunset; showers in evening.  
22nd.—Incessant rain from 2.30 A.M. to 9 P.M.  
23rd.—Fine, and generally bright.  
24th.—Fine, with occasional sunshine.  
Temperature still slightly above the average; air damp, and rain in excess.—G. J. SYMONS.





AS will be seen in the report of a meeting on page 392, the proposal to hold a great National and International Fruit Show in the metropolis next year met with a most encouraging reception. The resolution, moved by Mr. Smee, seconded by Mr. Wright, and strongly supported by other speakers—that such an Exhibition be held—was passed unanimously, not a hand being held up against it. The origin of the movement appears to have been very similar to that of the remarkable International Exhibition of 1866. In each case a few friends talked over the matter in an informal way, and provisional committees were subsequently organised to consider the best methods to adopt in carrying out the scheme.

Some of the Judges at the Crystal Palace Fruit Show last month thought the time had come for holding a fruit exhibition of great magnitude, and a deputation was formed to wait on Sir James Whitehead, Bart., to ascertain his views on the subject. It was presumably not in his capacity as Master of the Fruiterers' Company that Sir James was consulted, but as a recognised leader in the fruit movement, an untiring advocate for increasing and improving the supply of home-grown fruit, an eloquent exponent on the subject, and an able administrator. He was the originator of the great Show that was held in the London Guildhall last year, and which, under his guidance, proved a remarkable success. Sir James Whitehead gave such encouragement to the deputation that waited on him in reference to the still greater project that further action was at once decided upon, which resulted in the meeting in question.

As will be seen on perusal of the Chairman's speech a broad and liberal policy was advocated, and an union of effort by societies and organisations invited. All were encouraged to join hands towards the attainment of the object in view, and a hope was expressed that no petty jealousies whatever would arise in connection with the movement. That the meeting was in full sympathy with the Chairman's propositions and expressions was unmistakeable.

Mr. Douglas, a member of the Council of the Royal Horticultural Society, was asked to propose the first resolution, and it is evident he would have gladly done so had it stood alone, but as he had been entrusted with one also from the Royal Horticultural Society, he was bound to ask that it be appended. The first half of this resolution would have met with a joyous reception, and its adoption must have left the Society in a very strong position, but the latter half was wholly unacceptable as being in direct conflict with the broader principle of mutual co-operation which was felt, as if instinctively, the right line to adopt. The R.H.S. resolution found no seconder, and, in fact, could not be formally proposed by Mr. Douglas, who, however, acquitted himself well in what he correctly described as a difficult position. Mr. Bunyard, also a member of the Council, said the resolution did not embody the views that it was intended should be expressed, and suggested the possibility of a clerical error. Not a few friends and Fellows of the Society would be glad if that was so, and most readily condone any accident or mistake in transcription.

Dr. Masters, in a moment of forgetfulness, animadverted on the circumstance that the Royal Horticultural Society had not

been consulted on the subject of the proposed Exhibition. It was impossible that there could have been any such consultation, for the obvious reason that no person nor body was invested with authority to consult or make proposals to any society till empowered to do so by resolution passed at this, the first meeting. The Royal Horticultural Society will, it is presumed, now be approached, as will other organised bodies, national, metropolitan, and provincial, and there can scarcely be a doubt that abundant support will be forthcoming for insuring the success of an undertaking that is intended to be both national and international in character, and which will undoubtedly be of national importance.

The lines of the 1866 International are being followed in other important respects. The management was then entrusted to an independent Committee. Neither the Royal Horticultural nor any other Society was officially connected with it, but the Fellows of the Society gave to it their valuable support. This will occur again, as most of the gentlemen present at the meeting were supporters of the R.H.S., and while fully admitting the good work it had done were avowedly in strong sympathy with the movement that is now inaugurated.

The duration of the Exhibition is also proposed to be practically the same as in 1866. At the appointed time for closing that Exhibition a great loss was incurred, but by extending it three or four days a great profit was insured, out of which the Lindley Library was bought, and £1000 given to the Gardeners' Royal Benevolent Institution. The proposal to benefit the gardening charities by any surplus that may issue from the forthcoming event is certain to be in consonance with the feelings of the great mass of the gardening community.

Assuming that the Thames Embankment site will be available next year advantage should be taken of it, or a great opportunity may be lost for ever. All who are sincere in their wishes to see the United Kingdom—England, Scotland, Ireland, and Wales, with all the isles thereto belonging—become a greater and better fruit-producing nation, will be helpers in this worthy endeavour; and though the project cannot in its nature be particularly identified with any association, it is hoped, as the Chairman said, that "the work will be considered good enough for every man, whether he holds a high position or a lower one in the scale of horticultural science, to join in this cause."

### SPRING BEDDING.

ALL who have to provide a display of spring bedding ought now to be making active preparations to accomplish the object in view. Although up to the present time we have experienced no frost severe enough to injure bedding plants generally, yet, in consequence of heavy rains and lack of sunshine, there is not much beauty remaining among the summer occupants of the flower garden. Even were it otherwise, in view of the approaching winter, it is necessary that the plants intended to provide the spring display should be planted as soon as possible, so that they may become established before severe weather sets in. Not only is this needful for the purpose of enabling them to pass through the winter with the least possible injury, but also to forward their flowering time, as plants that are well established in the autumn have their roots in the right condition to enable them to push into active growth and flower as soon as spring comes.

There is another point which, if well considered, would I think tend to make spring bedding more popular. It is this, that to produce the bright and attractive show in April and May which is found in gardens where spring bedding is well done not a single square of glass is required. This is in marked contrast to the amount of space under glass required for wintering plants used for summer bedding. And yet for bright cheerful colours



many of those used in the spring time would be valuable additions to the summer bedders. Take for instance the grand strains of Pansies now cultivated; these form some of the most attractive summer beds when, as during the past season, the weather is suitable for them. Again we have no summer bedding plant of such a warm, pleasing pink colour as *Silene pendula*. These with white *Silenes*, Wallflowers in variety, *Myosotises*, Primroses, Polyanthus, Daisies, Arabis, *Saponaria calabrica*, Anemones, Hyacinths, Tulips, and Crocuses supply a charming variety, capable of producing a bright, attractive display during April and May, or still earlier in the season, when Snowdrops and Aconites are in flower.

#### PREPARING THE BEDS.

After having definitely settled with what plants the various beds are to be filled, the preparation of the soil will require some consideration, as the whole of them will not need the same treatment. Some of those used for spring bedding have a tendency to grow unduly strong, which not only destroys the balance, but also defers the flowering period. Again, others are greatly benefited by a deep rich soil, this being especially the case with Pansies. The beds devoted to these should receive a dressing of soot, this to be covered with 2 or 3 inches of thoroughly well-decayed manure and leaf soil mixed. The ground should be deeply dug, taking care to effectually incorporate the manure with the natural soil as the work proceeds. Those beds set apart for Primroses, Polyanthus, Forget-me-nots, Daisies, and all bulbous plants are prepared in the same way, as to bring out the flowers in good condition they require liberal treatment. On the other hand, *Silenes* and Wallflowers, if the soil is not heavy and is in good working condition, will be more satisfactory if no manure is given, neither do the beds for these require to be deeply dug. The soil should be forked to a depth of 2 or 3 inches, and when slightly dry on the surface, planted at once. Before digging flower beds the soil should always be thrown away from the edges with a spade. As the digging proceeds the outline of the bed can then be correctly maintained without placing the soil too near the edgings. As soon as the soil is dry enough after having been dug each bed should be neatly raked over, and is then ready for planting.

As a rule, far less pains are taken to arrange plants effectively for spring bedding than is the case with those used for the summer displays, consequently those who give the matter special attention are able to produce delightful and varied combinations. In many flower gardens there are numbers of small or only moderate-sized beds, and a few very large ones. In such cases there is a fine chance to display artistic ability in the method adopted with the bedding arrangements. The great aim should be to produce plenty of variety, at the same time bearing in mind that the arrangement as a whole should be well balanced and in harmony, yet each section of it should, as far as possible, contain some special feature. The small beds can be planted in distinct colours, with or without edgings, as taste may dictate or circumstances render necessary; but where there are numbers of small beds formed into groups, I prefer to have them without edgings, especially in cases where the beds are marked out with Box or Yew. It is then a much more simple matter to arrange the colours satisfactorily, and small beds, or pairs of beds, planted with one distinct colour are exceedingly effective. By following that system it allows a greater variety of plants to be mixed together in the larger beds without causing the arrangements, as a whole, to appear too much of a mixture. Let the system followed therefore be—small beds of one colour, large beds of mixed colours. Where several groups of beds exist, and bulbs are truly used, devote one group entirely to bulbs, such as Hyacinths, Tulips, Crocuses, Snowdrops and Scillas. Covent Garden Blood Red, Sutton's Harbinger, and Belvoir Castle Dwarf Yellow are three fine Wallflowers for a large central bed; the first-named variety edged with a broad band of the latter, and surrounded by an outer row of *Myosotis dissitiflora* has a fine effect.

Small beds arranged alternately with Pansy Countess of Hoptown (white) and Mrs. Grainger (bronze), or Pansy Archie Grant instead of the latter, are particularly striking. Blue King, edged with Yellow King, which is of a beautiful bright yellow colour, creates a brilliant and attractive show. Other fine varieties of Pansies are Lord Beaconsfield, Haynes's No. 2, Holyrood (dark blue), and Countess of Kintore. These can all be effectively used as taste may suggest.

Another class of plants of much value for spring bedding are the *Silenes*. The pink varieties supply a pleasing shade of colour so much wanted to relieve the blues, purples, and yellows, which predominate in plants used for spring. A good combination for a large oblong bed is to plant *Silene pendula alba* as a groundwork, then at intervals of 2 feet mark out small circles, to be filled with *Silene pendula* (pink), the whole bed being edged with a band of

*Myosotis* or blue Pansy. In another case the blue Forget-me-not might be used as a groundwork, and Belvoir Castle Wallflower as dot plants at intervals of 18 inches, the bed being edged with the dwarf white *Silene* or yellow Pansy. Many other admirable combinations might be enumerated, but I have simply given a few illustrations of different methods of planting for the benefit of those who require information.

#### HINTS ON PLANTING AND AFTER MANAGEMENT.

The distance at which the plants should be set apart must be regulated, not alone by the knowledge of the size they usually attain, but also by the size of the plants. The great point is to have the beds well filled, as no kind of vegetation makes much progress during the winter months, and by the time the plants begin to flower the soil in the beds ought to be quite covered. *Silenes* and *Saponaria calabrica* if planted from 6 to 9 inches apart, according to the size of the plants, will form a compact mass in flower. In the case of *Myosotis*, although at planting time the plants should be larger than *Silenes*, the same distance apart will answer well, because they will not spread so much as the *Silenes*. Those who are fortunate enough to have strong roots of Pansies, which were rooted about thirteen months ago, should place them from 10 to 15 inches apart; but where the cuttings were only inserted in July last close planting may be resorted to, from 6 to 9 inches being about the right distance. Wallflowers grow but little from the present till the flowering time, and should therefore be planted so that they just stand clear of each other. I have often noticed the scanty way in which beds of these finely scented flowers are planted, in the belief that they will fill their allotted space by the time they are in flower; the hope has generally been a vain one. Where *Arabis alpina* is used, as it sometimes is for want of a better, place the plants quite closely together. Daisies can be arranged so that only stand just clear of each other. Crocuses and Snowdrops can scarcely be planted too thickly—i.e., in cases where the bulbs have to be taken up annually. Tulips should be planted in rows 9 inches apart, 5 or 6 inches asunder in the rows, and 2 inches deep. Hyacinths require a little more room. After the beds have been planted with bulbs the soil should be mulched with an inch of sifted leaf soil or cocoa-nut fibre. During the spring months, whenever the weather is favourable and the soil dry enough, the opportunity should be taken to work the Dutch hoe among the plants, to loosen the soil, and thus allow the warmth of the sun to penetrate; this has a wonderful effect in bringing about that desirable result—viz., early flowering in spring bedding plants.—H. DUNKIN.

#### THE SNOWDROP.

THE flowering period of this old fashioned bulbous plant is looked forward to with eager expectation, as it reminds us that winter is past and spring is near at hand. The Snowdrop is perhaps the most accommodating bulb that can be grown. It is at home in the driest and most exposed positions; it does equally well in moist places that would prove disastrous to most bulbs; in fact, it flourishes in the most shaded and secluded spots, where many plants would only linger for a time and eventually die. The Snowdrop will succeed in moist places, but on this point do not misunderstand me, for there are positions that are too moist even for the Snowdrop. It thrives luxuriantly in the fen lands of Lincolnshire, but in wet positions when grown on tenacious soils, and the season proves very wet, the bulbs are liable to decay in the ground.

When once planted it would do perhaps for generations in the same place, but under natural methods of planting the time comes when the bulbs are so crowded that they have not room to develop properly, in fact they increase so rapidly that they almost lift themselves out of the ground. The bulbs decrease in size as well as the flowers, and I have known them fail solely through the crowded condition of their bulbs. Although they do well for an almost unlimited time they are greatly improved by lifting and replanting occasionally. Some people have a remote idea of the size the bulbs of the Snowdrop are capable of attaining when planted singly in good soil. I have seen them as large as a Filbert. To define the position in which Snowdrops should be planted or in which they look best is very difficult. I like to see them planted amongst grass under the shade of trees, where the foliage can be left to die naturally. They are effective amongst moss-covered stones or with a small growing Ivy near the margin of walks, even solitary bunches in shrubbery and other borders have a particular charm when no attempt has been made to plant them in a formal manner. There are positions in every garden in which they are capable of adding to its beauty, and often they are most admired in some out-of-the-way corner where summer flowers are never to be found.



The flowers, too, of this early flowering bulb are not only beautiful in their snowy purity, but they are useful and highly appreciated in these days by the inhabitants of our large towns and cities. The price realised for them in the market brings them within the reach of the majority, who are thus able to make wreaths and crosses at a very small outlay. The flowers are very useful for this purpose, but they should not be associated, as I have seen them, with the popular *Adiantum cuneatum*; their own foliage is not unsuitable, but they are charming when used with the bronzed leaves of Ivy or the mottled ones of other kinds. Who has not noticed the care with which bunches are arranged early in the season, and sent to our markets from France? Before the flowers of the single variety are expanded they are arranged so as to show only the very tips of the flower with a few Ivy leaves round them; thus they have the appearance of so many single pips of Lily of the Valley, but pointed much more considerably. Bunches arranged in this fashion are suitable for many forms of ornamentation in which flowers now play so large a part.

The Snowdrop is seldom used for forcing, but is well adapted for that purpose. Failure in forcing the Snowdrop is often due to potting the bulbs too late in the season. They look best in 4-inch pots, and the bulbs should be placed as thickly together as possible and covered at least with an inch of soil. After potting they should be placed in a rather shady corner and covered with an inch or two of ashes to prevent the moisture of the soil in which they are potted from evaporating. The moisture in the soil will soon start the roots into activity. When they are ready for removal from the ashes they should enjoy cold frame treatment. Under these conditions they move forward rapidly, especially when they are placed early in November where they will be free from frost. Nothing is gained by trying to force them; on the contrary, once use heat and they are ruined. Natural treatment must guide the cultivator if he is to be successful. It may not be generally known that if the bulbs after flowering are well cared for, and the pots plunged outside, that they will force better and earlier the second than they did the first year.

The Snowdrop is grown in large quantities for sale in the Fens of Lincolnshire. Fruit growers, market gardeners, and a very considerable number of cottagers are engaged in growing bulbs. For some years they confined themselves to the Snowdrop, but are now engaged in growing a considerable number of other things. The bulbs of Snowdrops are lifted in July, spread out in the sun to dry and harden for a short time, then they are sorted into two sizes—seed, as the small ones are called, and saleable bulbs. The small ones are planted again as early afterwards as possible. Seldom August is passed before they are returned to the ground. They are planted in rows 4 inches apart, and the bulbs about 1 inch apart. They are allowed to stand two years, when they are lifted and sorted again. The plan they adopt is to lift a patch and plant a patch annually. They have no difficulty in selling the bulbs, one large firm at least is in the habit of sending their representative annually to buy them. Seldom growers realise less than 10s. per thousand for them, and during unfavourable years I have known them sold for 13s. Do they pay at this price? is a natural question. Certainly they do; few plants with which they could crop the ground would yield them a better return.

Growers of *Eucharis* may be consoled by the fact that they are not the sole cultivators who are troubled with the bulb mite. Growers of Snowdrops for sale have been known to lose the whole of their stock by the ravages of these troublesome pests.—WM. BARDNEY.

### THE HESSLE PEAR.

I AM sending with this short note a specimen or two of Hessel Pears. There seems to be in Yorkshire a very prevalent notion that the Hessel and Hazel are separate and distinct varieties, notwithstanding that in Dr. Hogg's Manual, Hessel, Hessel, and Hazel are all classed together.

I have noticed on many occasions this Pear, and the conclusion I arrive at is that they are all one, the different soils and positions being responsible for the slight varieties in the fruits. The foliage, bark, and mode of growth in nearly all places are identical, and the chief difference in the fruits themselves is that some are not nearly so russet as others.

The late gales are responsible for the demolishing of what tradition says is the original Hessel Pear tree in England. It was a fine ruin of what must at one time have been a noble tree. I was in conversation a few days ago with a native of this village, considerably over eighty years of age, and he told me that when he was a boy the tree just blown down appeared almost as old then as it does at the present time, so that it must be upwards of 200 years of age. The tree is reputed to have been planted by the Flemish when they took refuge in this country in the sixteenth century. Hessel, as

it was then spelt, was close to the edge of the waters of the Humber, and at that time a thriving port. Such repute, therefore, may be correct.

The Pears numbered 1 I picked from a tree fifty or sixty years old, and a sucker from the original tree. They are much more covered with brown than those marked with figure 2, which I picked in the village about a quarter of a mile away, and which are identical with those grown near Grimston Park. There seems to me to be no apparent difference in the contour of the fruit, neither in the eye, nor in the insertion of the stem, so how the erroneous notion about difference has arisen I cannot conclude. The Pear is one well worth planting. The fruit is readily sold for eating purposes, but is also valuable as a stewing Pear, though it is not generally tried in this way.

Some years ago when fruit crops were proverbially heavier than at the present time many tons of this fruit were shipped from Hull to Aberdeen for use in the manufacture of perry, for which purpose its juicy qualities made it greatly in demand.

This Pear is generally picked in the first week of October, and should be kept for a few days before eating; and if the skin—which has rather an unpleasant taste—be removed, it will be found to rival many of our more pretentious kinds of Pears.—W. CLAYTON, *Hessle, Yorks.*

[Hessle, Hasel, Hazel, and Hessel are merely synonymous terms as applied to this Pear. The first mentioned is correct.]

### IMPROVEMENTS IN MY CULTURE OF AURICULAS.

In the *Journal of Horticulture* for 10th September I gave a full description of my treatment of this beautiful plant during one or two years; but there were objections to that treatment, arising

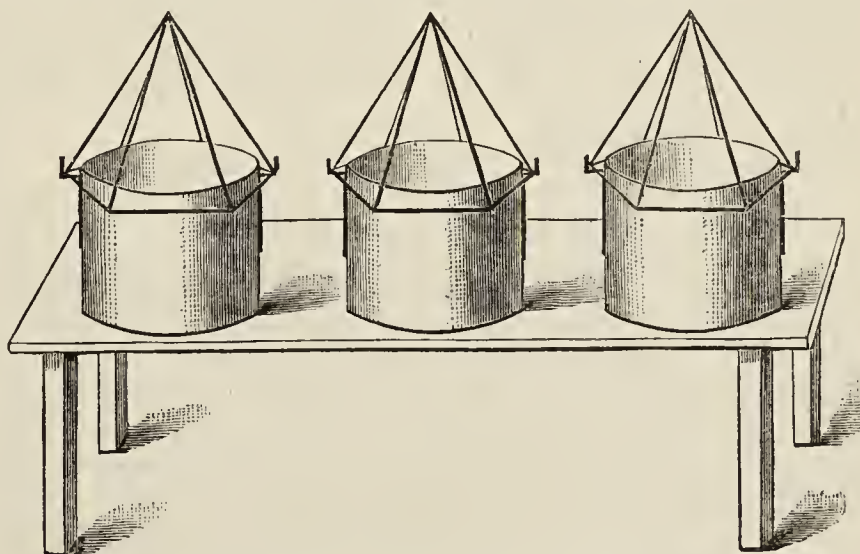


FIG. 75.—PROTECTION FOR AURICULAS.

from excessive rains in autumn and winter, also from worms in the open border, and slugs and snails above ground. I have given in the accompanying diagram my improved plan of management, which will completely save them from these enemies, besides rendering them very portable.

I have erected a plank of wood (or shelf) on two supports, to carry six or more cheese boxes. In the bottom of each I have several holes for drainage; over these I place old bones instead of crocks. On these I put a quantity of moss litter, such as is used for horses' litter, then I fill up with loamy mould, leaf mould, cow-dung (old), and some sand.

I then place four or five plants, according to their size, in each box. Three-quarter-inch iron wires are bent, as shown in the separate box of the diagram fig. 75, to support the glass handlights. These keep all the rains from the plants, and will at the same time admit sufficient air at all times to keep the Auriculas in health. By being placed some 2 or 3 feet above the ground they will be safe from worms and slugs.

Another advantage is this, the boxes are portable. At this period of the year they are placed in a sunny position, but during the summer months they are placed in a more shady part of the garden. A few days previous to a flower show they may be potted in readiness for exhibition.

This treatment would be very good for the protection of seedling Pansies, Primulas, and many other small or large plants, as well as Auriculas. The handlights must be covered during cold or winter nights with matting or carpets. The handlights may be taken off occasionally for a few hours in the daytime, weather permitting.—WM. MOODY BELL, *Cheltenham.*





## CHRYSANTHEMUM SHOWS.

THE following are the dates of the chief Chrysanthemum Exhibitions to be held during November of which we have received schedules and advertisements:—

Thursday, Nov. 5th.—Dalston and District (second day).  
 Thursday and Friday, Nov. 5th, and 6th.—Portsmouth and Ascot.  
 Thursday, Nov. 5th.—Chiswick.  
 Friday and Saturday, Nov. 6th and 7th.—Crystal Palace, Sydenham.  
 Monday, Nov. 9th.—St. Neots.  
 Tuesday, Nov. 10th.—East Grinstead.  
 Tuesday and Wednesday, Nov. 10th and 11th.—Kingston-on-Thames, Horsham, Leeds, and South London.  
 Tuesday, Wednesday, and Thursday, Nov. 10th, 11th, and 12th.—National Chrysanthemum Society, Royal Aquarium, Westminster.  
 Wednesday and Thursday, Nov. 11th and 12th.—Birmingham, Bournemouth, Northampton, Swansea, and Croydon.  
 Thursday and Friday, Nov. 12th and 13th.—Teddington, Wimbledon, and Ware.  
 Thursday, Friday, and Saturday, Nov. 12th, 13th, and 14th.—Belfast.  
 Friday, Nov. 13th.—Cheshunt and Hitchin.  
 Friday and Saturday, Nov. 13th and 14th.—Eccles, Leicester, Sheffield, Tooting, and Monmouth.  
 Tuesday and Wednesday, Nov. 17th and 18th.—Liverpool, Salisbury, Twickenham, and Diss.  
 Wednesday and Thursday, Nov. 18th and 19th.—Spalding.  
 Wednesday and Thursday, Nov. 18th and 19th.—Hull and Rugby.  
 Wednesday, Thursday, and Friday, Nov. 18th, 19th, and 20th.—York.  
 Thursday, Nov. 19th.—Wantage.  
 Thursday, Friday, and Saturday, Nov. 19th, 20th, and 21st.—The Scottish Horticultural Society, Edinburgh.  
 Friday and Saturday, Nov. 20th and 21st.—Stirling, Chorley, Bolton, and Stockport.  
 Saturday, Nov. 21st.—Batley.  
 Wednesday and Thursday, Nov. 25th and 26th.—South Shields.

## THE SOUTH SHIELDS CHRYSANTHEMUM SHOW.

ARRANGEMENTS have been made for holding a Chrysanthemum Show in the Royal Assembly Hall, South Shields, on November 25th and 26th next, and we learn from a schedule just to hand that substantial prizes, ranging from £5 downward, are offered for cut blooms, specimen plants, groups, and miscellaneous exhibits. A particularly strong local Committee has been formed, with Messrs. Bernard Cowan and H. Hinde as Hon. Secretaries, and the list of patrons and patronesses includes the Mayors and Mayoresses of South Shields and Darlington, with numbers of the principal residents in Durham. This is the most northern Show held in England, and it is rather strange that Newcastle, Alnwick, and Darlington have all tried the experiment, but failed to continue. There is every prospect of a better fate being in store of the South Shields Show, as it is under capital management, and much interest is being awakened in the district. The hall is said to be a spacious one, and is lighted by electricity.

## NOTES ON EXHIBITION PRIZE SCHEDULES.

THE autumn exhibitions, which are mainly intended for the encouragement of Chrysanthemum cultivation, have fairly begun; no less than three southern towns had their fixtures in October. Until the last half a dozen years Chrysanthemum shows in that month were a rare occurrence, but now these southern fixtures are not found to be at all too early; whether it is owing to the earliness of the seasons generally, or the method of cultivating the plants, or to the introduction of early flowering kinds, it is difficult to say. One useful purpose these early fixtures serve—that of lessening somewhat the clashing of dates, which is bad enough now, as the time over which the Chrysanthemum lasts in its perfection is too short. Something over one hundred shows have to be crowded into the small space of one month, which proves what a hold the Chrysanthemum has upon the public, or so many societies could not exist, and it is seldom that one collapses owing to lack of patronage.

I do not perceive any falling off in the interest in the coming campaign amongst the large army of cultivators of all classes. Ample prizes are offered at most of the leading shows, the bulk going to the cut bloom classes, owing, I presume, to the greater interest taken in this section by the subscribers and the general public. The ball was set rolling at Southampton, October 27th, in the Victoria Hall, a capital site for an exhibition of this kind, abundance of light being obtainable. For the last few years this Society has not held an autumn exhibition, which is to be regretted, for at one time the annual gathering there was anxiously looked forward to by all concerned. The schedule contained several substantial prizes in the cut bloom department, five guineas being offered for twenty-four blooms, half incurred and the

remainder Japanese, with proportionate second and third prizes also, and good competition resulted.

The Kent County Society held their Exhibition in the Rink at Blackheath, November 3rd and 4th. Although this Society is but young in years it is regarded as one of the best of the metropolitan meetings fixed. As it is just before other leading gatherings some of the best blooms in the neighbourhood of London find their way to it. Prizes of £8, £6, £4, and £2 were offered for thirty-six blooms in the usual divided way of incurred and Japanese kinds. The schedule contained no less than thirty-seven classes, which provided abundance of scope for both large and small growers, and gave considerable variety to the Exhibition. Amateurs receive much encouragement; a first prize of £3 was offered for twenty-four blooms equal in numbers of incurred and Japanese. Another rising Society not far from London is Watford. Their Exhibition was fixed for November 3rd and 4th also. Numerous prizes were offered. The two sections, incurred and Japanese, are kept apart here. Good prizes were given in each class.

Portsmouth, November 4th, is an important fixture in the south. Probably nowhere else in England can such a site be found for a gathering of this kind, and nowhere are the poor classes encouraged in the same manner that they are here; 1d. only is the charge for the last three hours on the closing night, a treat appreciated. A very comprehensive schedule was issued by the Committee, containing no less than fifty-eight classes for Chrysanthemums alone. Nowhere do specimen plants receive the same encouragement as here. For eight the first prize was £8, and £5 for second, besides others proportionately substantial in the smaller classes. Cut blooms were thoroughly well provided for by thirty-nine classes. For twenty-four Japanese and the same number of incurred in not less than eighteen varieties, and not more than two of one variety, the first prize was a handsome piece of plate value £25, along with a cash prize of £8; second £7, third £5, and the fourth £3. It may be remembered that this trophy was secured by Messrs. Drover, Farcham, last year. Another important class was that for twenty-four blooms, twelve Japanese and the same number of incurred; £5 is the leading prize. Single varieties receive every encouragement here, and thoroughly well do they deserve it, as no one can deny who have witnessed this exhibition of single Chrysanthemums.

The autumn meeting at the Crystal Palace has long been well patronised by Chrysanthemum specialists, and is one of the annual events looked forward to. November 6th and 7th are the dates this year. Sums of £10, £7, £5, and £3 are offered in the leading class for cut blooms, no less a number than forty-eight being required, the wording of which renders competition easier than usual; but eighteen varieties in each section, incurred and Japanese, are stipulated for. Competition in this class is always keen. On the same dates the Bradford Society hold their show, which must be considered an early date for a town situated so far north. Experience has probably taught the management that it is not too early to secure satisfactory results. £10 is there the leading prize offered for forty-eight blooms under similar conditions to many other societies.

The most important of the metropolitan meetings—that of the National Chrysanthemum and the Kingston Societies—are held the week following the Crystal Palace date. Tuesday, Wednesday, and Thursday are the days selected for the former. Whether the holding of a three-days show is to be recommended or not is a matter for future consideration; but I am inclined to think that such an arrangement will not find favour with the majority of exhibitors, and especially when the small prizes compared with other years is taken into account, for there is a great falling off in the value. The principal class is what is known as the Co. class. Forty-eight blooms are required in not less than twenty-four distinct kinds of both incurred and Japanese, the entry to be made in the name of a society. The blooms can be grown by any number of members belonging to the society in whose name the entry is made, a challenge trophy and £10 being for the premier award in this class, the former to be retained by the President of the winning Society for one year, and the cash to be divided amongst the contributors of the blooms. This class is, in my opinion, not calculated to have a long existence, being too complicated. Two other classes are worthy of mention in the schedule—that for forty-eight incurred blooms in not less than twenty-four varieties; £8, £6, £4 are the amounts at stake. The schedule contains a similar class for Japanese blooms. Several good prizes in special classes are given, but the conditions of competition are very much against a big entry that I shall be much surprised if one is received. I allude to the various trade classes. Already I hear complaints from exhibitors of there being nothing worth going for at the N.C.S. meeting. I am pleased to see that this Society are offering prizes for blooms arranged in what is hoped will be an effective manner without the aid of the show boards, which will dispense with much of the dissatisfaction at present expressed by a certain class of would-be reformers in the manner at present practised in "setting up" Chrysanthemum blooms in a cut state.

The Kingston Society have fixed their dates for the 10th and 11th November. The schedule contains but few alterations from previous years. I have often heard the remark that a Society of this class ought to encourage more variety. There is but one reason why the schedule is not extended—viz., want of space in the Drill Hall where the Show is held; the entries in the present classes quite fill the space at command. The leading prize is the challenge vase valued at 25 guineas, with the addition of £5 in cash, for forty-eight blooms distinct, half incurred and the remainder Japanese. Such a class as this affords ample opportunity for testing the skill of a grower. It may be fresh in the minds



of the Journal readers that this coveted trophy was last year won by Mr. C. Beckett, gardener to W. Bryant, Esq., who will no doubt do his best to repeat the feat this year. Ample scope is given to cultivators, as handsome prizes are offered for twenty-four, twelve, and six blooms in both the incurved and Japanese sections.

In point of money value the Birmingham Chrysanthemum Society carry off the palm in the amount offered in one class. Prizes of £20, £15, £10, £5, £3, and £2, is allotted for forty-eight cut blooms, all to be distinct, evenly dividing the incurved and Japanese sections. Similar prizes induced no less than eighteen entries to be made last year, out of which there was but one absentee, and I should not be surprised if even that number is exceeded this season. Other good prizes are available also to the competitor who is sufficiently strong for the dual competition. November 11th and 12th are the dates chosen.

The Liverpool meeting is arranged for the 17th and 18th November, and should secure a large entry. The prize list is not only comprehensive but of considerable value. In the leading class £10 10s. is offered as first prize for four dozen blooms in not less than thirty-six varieties, and to this prize is added a silver cup. For twelve incurved, twelve Japanese, and the same number of reflexed, the latter in not less than six varieties, the handsome sum of 10 guineas, with the addition of a silver challenge vase, is offered for first honour, suitable rewards also for second and succeeding prizes. This is an easy class, and should secure large patronage. Numerous other substantial prizes are offered in an altogether excellent schedule.

On the day following the opening of the Liverpool Exhibition that at Hull commences, and if it is this year as well supported both by exhibitors and the public as in the past it will be in all respects worthy of its great reputation in the Chrysanthemum world. Incurved and Japanese blooms have classes set apart for them separately. Not more than twenty-four of each are required in any class. In that for the first named but eighteen need be distinct; duplicates in six instances are allowed. Surely these easy conditions, and the fact of £10 being offered as first prize, ought to bring out a strong competition. Two dozen Japanese are quoted—the same amount offered, the only distinction is that they must be distinct varieties. Classes of this kind generally secure more entries than where the two sections are combined, although it is perhaps more difficult for the exhibitors themselves, it being considered a harder feat to accomplish to win two first prizes in separate classes than to win one under the combination system. Other good prizes are offered in the open classes, but space forbids of their being detailed. Ten classes are provided for amateur cultivators of cut blooms. In the open classes for plants, whether it be for groups or specimens, ample provision is made to secure keen competition. No less a sum than £27 is offered for first honour in Class 30 of the schedule, which reads as follows:—"A group of Chrysanthemums interspersed with foliage plants arranged for effect in a space of 100 square feet." If this liberality does not secure the desired aim it is useless to cater for exhibits. Table decorations—the only flowers employed being Chrysanthemums with other greenery, epergnes, &c., confined to ladies—have always been a strong feature at this Show, and should continue so if the amounts offered in prizes are an inducement to the fair sex. During the last two years the autumn exhibitions of the Scottish Association in Edinburgh have been so uniformly good that a notice of this sort would not be complete without a reference to this Society's schedule, which contains no less than thirty classes. The principal class is confined exclusively to Japanese blooms—forty-eight in thirty-six varieties; prizes ranging from £20 to £2 are offered. A challenge cup and £5 is temptingly displayed for the benefit of Scotch gardeners only—twenty-four incurved in not less than eighteen kinds, special varieties, six blooms of each—receive much encouragement, as well as branches staged as grown from decorative varieties. November 19th and two following days are chosen.—M.

#### CHRYSANTHEMUM LOUIS BOEHMER.

I SHALL be pleased to learn through the Journal if Louis Boehmer behaves with other growers as it does with me. Each of my plants (I have only three) has been flagging for some time—say three weeks; in fact, from the time the crown bud was taken it is confined to the three leaves attached to the crown, but sometimes only one leaf will flag, other days two, but rarely all three at the same time. The buds are swelling freely, and I find the last to set are swelling fastest. My first bud was taken on the 20th of September, others on the last days of September. Perhaps I should add that the latest buds were terminals in the place of crown buds. These plants are watered and fed the same as the others, and the only plant that has a tendency to flag is *Boule d'Or*, but then it affects the whole of the foliage. Some plants like *Golden Dragon* have always the appearance of wanting water, but the leaf seems half withered at times.

Like "Y. B. A. Z." (page 311) numbers of what I supposed would be crown buds were terminals. The Queens nearly always are, the only exception being *A. Salter*, but this bud in opening very coarse, and what I call scaly, a green calyx being mixed up with the florets. I am inclined to think that when the crown takes the form of a terminal it makes a good clean flower.—THISTLE.

#### JAPANESE CHRYSANTHEMUM VIVIAND MOREL.

THIS variety is coming so good this year that it is likely to be much sought after, being I think the flower of the season. It is a pity there is already one in existence of the same name, although there is not much danger of there being much confusion, as no doubt the other has almost

dropped out of cultivation, but it is worth making a note of. On page 55 of the National Society's Catalogue of 1888 it will be found described. I well remember it, a white reflexed Japanese with a greenish tip to the florets on first coming out, useful only as a decorative variety, but it is not more than two years ago I saw it in a collection.—C. ORCHARD.

#### YELLOW SPORT FROM MDLLE. LACROIX.

UPON a visit to the nursery of Mr. H. J. Jones, at Lewisham, on October the 28th, I discovered he was in possession of the long-expected yellow sport of that beautiful Chrysanthemum *Mdlle. Lacroix*. This is very valuable to all growers, because that variety is not only good for exhibition, but for all decorative purposes and cut flowers. Grown in small pots or large pots, fed well or poorly, it does its work with power to bloom every bud it forms. This sport is very interesting. As is well known, *Mdlle. Lacroix* sported pink in several places a year or two back, and not as many do from white to yellow first, sometimes a pale yellow, as this is then throwing a darker shade, as in the case of the *Madame Desgranges* varieties. It seems as if in time we shall discover some law as to the evolution of these sports. Mr. Francis Galton said in 1885 before the British Association, "The appearance of each new natural peculiarity was a faltering step in the upward journey of evolution, over which in outward appearance the whole living world was blindly blundering and stumbling," but it is by carefully watching and selecting that we should cease to blunder so much, and conserve many variations in living things now lost for want of intelligent watchers and recorders. Now *Mdlle. Lacroix* was on the list of M. Lemoine of Nancy, France, for the first time in 1882, and was probably raised in 1881, so that it has taken nine years to give a yellow sport. The first record I can find as to *Madame Desgranges* was on an old list at Mr. Ware's Nursery at Tottenham, London, where it appears to have come in 1878, as it was on their list of 1879, with only the notice, "Creamy white flowers, large petals, broad." Now let us suppose that it was raised in 1877. In 1885 Mr. Wermig of Woking, Surrey, was selling a yellow sport of this, and as he had a large stock then must have had the sport in 1882 or 1883, and upon this occasion I found in 1884 there were sports into yellow of it in six or seven different places; so that it seems in six or seven years from seed, if sufficient quantity is grown, that a sport is likely to occur. Perhaps someone else will throw any light they can on this that will help us to build up a theory of the law of sports.—W. PIERCY.

#### CHRYSANTHEMUMS AROUND HAVANT.

I HAD previously read a good deal in the Journal about the Chrysanthemums which are grown in the neighbourhood of Havant, but time would not admit of an extended tour amongst them. Mr. Agate, gardener to R. Rawson, Esq., is a large grower, having a thoroughly representative collection of about 800 plants of the large flowering varieties, 200 Pompons, singles and fimbriated varieties, as well as about six dozen seedlings from the best American source. Sown in March last these plants look remarkably well, having generally a splendid habit of growth, their height ranging from 1 foot to 3 feet 6 inches, many of them having very stout leathery foliage, quite of the style of Mrs. Falconer Jameson. Plants of this habit with good blooms are to be encouraged; the time was too early to see hardly any of them in flower. One deserved notice, a pure white reflexed Japanese of good form, the plant not being more than 1 foot high. The "Queens" range from 5 to 6 feet high with promising buds; in fact, the whole collection is characterised by this, the wood having a ripened appearance, the foliage all that could be desired in developing future blossoms. The Japanese vary in height from 2 feet 6 inches to 8 feet, indeed Mrs. Marion Thrower beats *Madame C. Audiguier* in this, having run up to 12 feet. Of new kinds the following were promising:—*Beauty of Castle Hill*, *Archiviste Blanchard*, *Vivian Morel*, very promising variety of the *Audiguier* type of flower, the growth not more than 3 feet 6 inches high, the growth blush mauve; *R. C. Kingston*, dark purple violet rose; *Eugénie Giat*, purple, with silver reverse. Of others rather better known *W. H. Lincoln*, *Bouquet de Dame*, *Kioto*, *Lilian Bird*, *Coronet*, *Louis Boehmer*, and *Mrs. A. Hardy*, the last named was carrying a magnificent bloom.

Emsworth House is the residence of Captain Boyd, is noted for the local successes which blooms from this place has gained for Mr. Woodfine, who grows about 300 plants for large blooms. This year the frost of Whit-Sunday injured the points of the plants which were outside and unprotected at that time. Thinking they would not make due progress after being so badly checked, all were cut down to within a foot of the pot; the consequence is excellent dwarf plants, very suitable for "grouping," being well clothed with very fine dark green foliage and promising blooms for the purpose. *Alfred Lyne*, *Princess Beatrice*, *Emperor of China*, *Princess of Wales*, *A. H. Neve*, *Jeanne Marty*, and *M. Pankouke* were especially promising of extra fine blooms.

At The Oaks, Emsworth, Mr. Gerald Smith takes much interest in the growth of the Chrysanthemums cultivated here so well by Mr. Payne, who, it may be remembered, carried off the Veitch Memorial medal last year given at the N.C.S. Centennial Exhibition for the best stand of Japanese blooms staged without the orthodox cup and tube, and with several inches of stem attached. About 400 plants are grown for large blooms; with but few exceptions belong to the incurved and Japanese sections. The plants are well grown, not too stout, but just that amount of strength and good foliage which betokens blooms of good quality. The incurved are especially clean and bright. The Queen family is well represented by well-built blooms of *Lord Alcester*,



and Queen of England, Violet Tomlin, Princess of Wales, Miss M. A. Haggas, Lord Wolseley, and Mrs. Naish. George Glenn and Mrs. Dixon here find a home in spite of the smallness of their flowers as compared with the present day rage. Such Japanese as Avalanche, Etoile de Lyon, Puritan, Stanstead White, A. H. Neve, M. Bernard, and Annie Clibran represent this section thoroughly well.

Stanstead Park provides space for a considerable number of plants for all purposes. Not less than 700 are grown on the large bloom method, while for late use bush plants are provided. The plants altogether look as well as could be wished; the former are late compared to others in the neighbourhood. Late home decoration is more of a consideration than early exhibition. The growth is somewhat tall, the plants carry large glossy leaves which are characteristic of liberal treatment, and will no doubt result in a fine display later on. The Queen family are grown in considerable numbers, and being arranged together in two long rows make a very heavy display. In addition to these Mrs. Coleman, Princess of Wales, and Jeanne d'Arc are developing finely. Condor, Mr. H. Cannell, Avalanche, Soleil Levant, and Edwin Molyneux promise equally well. On the whole Mr. Hoskins must be congratulated on the promise of a fine show of blooms.

Leigh Park, the seat of Sir F. Fitzwygram, Bart., M.P., is noted for the general sound quality of the Chrysanthemums grown here every year. Not less than 600 plants can there be this season; exceptionally tall they are, which shows the variability of the plants even in a small area. The blooms are developing fast, and appear to be "timed" about right for the different shows when required. Alfred Lyne, Princess of Wales, Miss M. Haggas, Mrs. Coleman, Lord Wolseley, Avalanche, and Sunflower were a few among many that were noteworthy.

The Victoria Park, Portsmouth, has for some years now produced a capital display of Chrysanthemums. Not only large show blooms, but fine groups have been arranged at the Portsmouth Show from the very limited glass space at command of Mr. Hatch, the Park Superintendent. This year is no exception to the rule; good plants again afford much pleasure to the Portsmouth townspeople, who flock in large numbers to see them in the greenhouses in the park. The Anemone section is well represented, fine blooms of M. Panekoucke, Nelson, Sabine, Lady Margaret, and Mrs. Judge Benedict are notable. Space forbids a detailed list of names being given, but I could not omit such as Hamlet, Advance, Sunflower, Puritan, Jeanne d'Arc, and several of the "Queen" family.—NORTHERNER.

#### CHRYSANTHEMUMS IN THE ISLE OF WIGHT.

THE outlook was very promising here in the early part of the season, but the spirits of the cultivators fell with the barometer, for during the storms and gales experienced here last week damping set in fearfully amongst the blooms, both the tips of the late ones and the full flowers of the early blooms being affected. But as the wind changed and the barometer rose the damp to a great extent disappeared, and the hopes of more than one Chrysanthemum grower rose with it. It has certainly been a very pleasant and acceptable change all round. I send a few notes of some gardens I have visited in the neighbourhood.

#### THE CASTLE, ST. HELENS (W. S. RIDLEY, ESQ.)

Here are some well-known plants, some on the natural and others on the bush system. The gardener, Mr. G. Wilkins, is a careful and observant cultivator, getting some timber into his plants, which here in the sunny south ripen well. Unfortunately his houses for flowering are not so well adapted for developing the large buds as others I am acquainted with; they come on much too quickly, but nevertheless produce some fine blooms. Foremost amongst the new Japanese must be placed Vivand Morel, the flower of the season; Gloire de Rocher; Bouquet de Dame, early white; Louise Boehmer; R. C. Kingston, purple, very promising; Kioto, deep yellow, improvement on Mr. H. Cannell; Cæsare Costa, good colour, but showing too much of the dull turnover; Ada Spaulding, blush incurved Japanese; W. G. Drover, good; Lillian B. Bird, large quilled variety, fleshy pink; Etoile de Lyon, President Lincoln, Annie Clibran, Mr. Wellam; Madame Robert Owen, hybrid Anemone, pure white; Lady Lawrence, Wm. Robinson, M. J. M. Pigny, Madame C. Audiguer, Mrs. J. Wright, Edwin Molyneux, and other older Japanese were looking well.

There is not much new in the incurved section but Alfred Lyne, which has come very well and a good colour, but the old-established ones are well represented. The Queen family, especially Lord Alcester, Venus, White Venus, Yellow Perfection, Princess of Wales, Mrs. Coleman, Empress Eugénie, Mrs. N. Davis, Mr. C. Gibson, Isabella Bott, Lord Wolseley, Hero of Stoke Newington, Lady Hardinge, Jardin des Plantes, good. The bush specimens are well grown in the decorative style, with about twenty to fifty blooms on a plant, which show well in the fine large conservatory.

#### YARBOROUGH HOUSE, BRADING (J. J. DARLEY, ESQ.)

This garden is a *multum in parvo*. The outdoor Peach trees in the spring and summer are such as are rarely seen. The huge clumps of old fashioned herbaceous plants are a pleasant feature, and now Chrysanthemums fill the houses, giving evidence, as do the other things, of the ability of the gardener, Mr. George Burt, one of the most genial and hardworking of the old school of gardeners. Mr. Burt is very careful in his selection of varieties, trying most of the new ones two years, and then discarding them if they do not come up to his standard, which is colour, refinement, and freeness of growth, and flower for decorative purposes as a cut bloom, for most all are sent away to London in the

season. The flowers are all distinguished by high colouring and true character of form. Mrs. Alpheus Hardy, as a small plant, looks developing a good flower, and also the counterpart, Louis Boehmer, which I do not think will ever be such a favourite as the white variety. Gloire de Rocher has six fine flowers highly coloured on the plant and looks well. A. H. Neve is striking, being a soft peach colour. Mrs. Irving Clarke, rose, promising flower; R. C. Kingston, purple, coming large; W. W. Coles, brick red; Miss Emma Hartzhorn; Sunset, fine spreading florets, very striking, but I am afraid won't fill up; Vivand Morel, eleven flowers on the plant, large and good colour; Bouquet de Dame, white, very pure; President Hyde, reflexed Japanese, bright yellow, striking. Amongst other older varieties Miss Gorton is a good variety, soft pink; Mr. Matthews, terra cotta; Mr. C. Orchard, a favourite on account of the habit and showy orange colour; Mr. Falconer Jameson, Avalanche, Madame Louise Leroy, Val d'Andorre, M. J. M. Pigny and others are grown well as fine bushes, carrying well developed blooms.

#### CHRYSANTHEMUMS AROUND LIVERPOOL.

The following list of places may be taken as representing some of the leading growers in the Liverpool district. There are many collections grown which do not figure on the exhibition board, some of which I may refer to in some of the future issues; but as the greater portion of the following will be exhibitors this season, they may, perhaps, be taken first:—

#### CAMP HILL, WOOLTON,

The residence of F. H. Gossage, Esq. Here Mr. Jellicoe is much superior in the Japanese class as compared with last year, and the best of which are Avalanche, Criterion, Val d'Andorre, F. A. Davis, Mdle. Paule Dutour, Madame Louise Leroy, Etoile de Lyon, Geo. Daniels, Fimbriatum, Stanstead White, Geo. Atkinson, Sunflower, Stanstead Surprise, Mrs. F. Jameson, and Bouquet de Dame (grand), Condor, A. H. Neve, Volunteer (very fine), Sarah Owen, Madame Laing, and Belle Paule. In incurved Empress types, John Salter and the Tecks all good. Amongst the newer ones E. Delmas promising well. William Lane, a Japanese reflexed, bright crimson, shaded rose, a full solid flower, is remarkably good. Eynsford White, Mr. Jellicoe says, is not worth the room it occupies. Five hundred plants are grown.

#### LINGDALE LODGE, OXTON, CHESHIRE,

The residence of G. Cockburn, Esq., is again to the fore with a grand collection. The blooms are a week later than last season. The Queen family are good. John Doughty, grand in colour and petal, but lacks the size of its parent; Princess of Wales, Mrs. Heale and sports are all good, as is the Teck family, Jeanne d'Arc, Jardin des Plantes, John Salter, Mr. Bunn, Princess Beatrice, Lord Wolseley, and White Beverley will be good. In Japanese Avalanche, Sunflower, Mrs. F. Jameson, Etoile de Lyon, Condor, M. Bernard, Belle Paule, Edwin Molyneux, Mrs. Irving Clarke, Boule d'Or, Mrs. E. W. Clarke, Bouquet de Dame, M. C. Audiguer, La Triomphante, and R. Brocklebank are all good and grand in colour. Alberic Lunden, Florence Davis, W. H. Lincoln, Vivand Morel is grand, being of a pinkish colour, and as large as Etoile de Lyon. Louis Boehmer is a good sized flower, and promises to be a great curiosity. Robt. Cannell is, with Mr. Burden, a poor thin flower.

#### ELM HALL, WAVERTREE.

Mr. A. R. Cox is the gardener here, and there is every promise of some very fine blooms being had just at the right time for the shows. Of the newer varieties, M. R. Bahuant is a grand acquisition. Here are grand blooms with florets of great substance, very solid and perfectly smooth. A free sturdy grower, but Mr. Cox fears its weak point will be its natural earliness; the first selected buds having far more substance than the later ones. The striped sport from Queen of England (which is to be sent out in due course) under the name "Noel Pragnell," is for the third time coming quite distinct, every petal bearing beautiful delicate streaks of purple on a whitish ground. This sport was fixed by Mr. S. Pragnell, Broomfield Lodge, Chelmsford, who sent it to Mr. Cox for trial. It is far more distinct than Lord Alcester and Golden Empress, and should be in the hands of all cultivators. Of the new Princess sport, "Matthew Russell," it is too early to speak, but up to the present stage is exactly the same colour as Mrs. S. Coleman. Beauty of Hull is the colour of H. Shocsmith, but a decided improvement, the petals being as smooth as Mr. Bunn. Oriental is larger than last year. It is a beautiful shade, approaching Venetian red, but the fear is that it will not come up to the present standard of exhibition blooms. What a beautiful Japanese is "Annie Clibran," so free, and the colour so pleasing. Some consider this too small; but as seen here it is a grand front row flower. Lillian B. Bird, Mr. A. H. Neve, W. H. Lincoln, Coronet, Bouquet de Dames (fine), Geo. Atkinson, and W. W. Coles of the newer varieties; and Sunflower, Belle Paule, Criterion, Boule d'Or, Etoile de Lyon (especially fine) of the older varieties, are conspicuous by large buds, which are certain to produce grand results. In incurved, the Princess of Wales types and John Doughty, John Lambert, Empress of India, Golden Empress, Lord Alcester, Alfred Salter, Mrs. N. Davis, Hero of Stoke Newington, Princess Teck, Refulgens, Mr. Bunn and Barbara are all good. In Anemones, Mrs. Judge Benedict, Gladys Spaulding, Lady Margaret, and Nelson are excellent, while the best reflexed are King of Crimsons, Cullingfordi, Chevalier Domage, and the Christines. The growth of the plants is fairly strong, and the wood well ripened, considering the season, but now they are showing signs of mildew to a greater extent than usual. The stock is limited to 500 plants.



## AYMESTRY COURT, WOOLTON,

The residence of H. J. Robinson, Esq., there are some fine plants, not for the large number (for Mr. C. Osborne has only 250 plants) but for the excellent quality throughout. In the Japanese, Mrs. J. Wright, Album Fimbriatum, W. Holmes, Criterion, M. Bernard, Val d'Andorre, E. Molyneux, Stanstead Surprise, L'Automne, Puritan, W. H. Lincoln, W. W. Coles, Etoile de Lyon, Sunflower, Leon Fraché, Boule d'Or, Golden Dragon, Mrs. F. Jameson, A. H. Neve, are promising well, whilst Avalanche is very fine. Mr. Bunn, Refulgens, all the Queen family, Lord Wolsley, and Prince Alfred are the most conspicuous in the incurved section. Mr. Osborne considers Emily Dale Improved much inferior to the old type. Of the new ones, Cesare Costa, a dazzling red flower with large flowers, and Coronet, a light bronzy yellow with narrow florets, are grand additions.

## ALLERTON BEECHES, ALLERTON,

The residence of Henry Tate, junr., Esq. Here Mr. J. Edwards, the gardener, is later than many of his neighbours. I can fully sympathise with him, for I know of no one who suffered so severely from the late storms. I saw the collection some few weeks ago just after one had passed over, and I thought then how much he would suffer. But now the blooms are beginning to open well. The incurved are rather late, but there will be some good Japanese. In the former of the new ones are some very fine flowers of M. R. Bahuant. Vivian Morel bids fair to eclipse Etoile de Lyon, both for size and fine petal; Excellent, of a soft pink colour, is likely to come good; W. H. Lincoln, Alberic Lunden, and Mrs. Irvine Clarke are all very good.

## HIGHFIELD, WOOLTON,

The residence of W. H. Tate, Esq. Although a non-exhibitor we can always look here for an excellent collection amongst Japanese; Avalanche, Yellow Dragon, Mrs. F. Jameson, Mons. W. Holmes, Bouquet de Dame, Sarah Owen, Madame Laing, and Sunflower are very fine of the older varieties. In the newer varieties G. P. Rawson, a double variety, rich buff centre petals, bright nankeen and apricot yellow. Alberic Lunden, brilliant dark carmine, shaded fiery crimson, Mr. Haigh thinks will supersede F. A. Davis. Lilian B. Bird, a lovely variety with long quilled petals; Louis Boehmer, by far the best bloom seen of it this season, and Gloire du Rocher are all excellent. All the Queen types are very fine, as is Refulgens, but the Princess family do not seem to be opening quite so freely as yet.

## CALDERSTONES,

The residence of Mrs. C. MacIver. Mr. Tunnington has capital plants this season. All the Japanese will be good, with the exception of Meg Merrilies and its sports, which are rather thin in substance, which Mr. Tunnington attributes to the cold wet summer. He is of opinion that their day is nearly over, as at the best the cup can be seen through the flowers when staged. This season Belle Paule is above the average, every bud producing fine blooms. The incurved are about the average, Prince Alfred and Lord Wolsley especially fine; Princess of Wales and all its sports, with Princess Teck, Hero of Stoke Newington, &c., are in fine form. The Empress family are looking well, but a little later than usual. Of the new incurved M. R. Bahuant too much praise cannot be accorded to it. Here it is again first-class in every respect, the flower being equal to the very best grown Queen. Its carliness Mr. Tunnington thinks can be remedied by propagating stronger cuttings somewhat later, or later pinching. M. Ulrich Brunner is another variety of great promise and beautiful colour. Eynsford White, Bouquet de Dame, and C. Wagstaffe are, in Mr. Tunnington's opinion, to supersede Elaine. Miss Anna Hartzhorn is a lovely broad petalled silvery white. W. H. Lincoln, W. W. Coles, Mrs. E. W. Clarke, and Puritan are good in every respect.

## DOVE PARK, WOOLTON,

The residence of Mrs. Cope. Mr. Carling is this year particularly strong in Japanese. E. Molyneux, M. Louise Leroy, Puritan, Sunflower, Mrs. Falconer Jameson, Criterion, Annie Clibran, W. W. Coles, Mrs. E. W. Clarke, M. Bernard, and Madame Baco are excellent. Of the newer ones Gloire de Rocher, and Mdle. Marie Hoste, creamy white, streaked and bordered amaranth, are admirable. Mrs. E. W. Clarke and M. E. A. Carrière are varieties of much promise. Of the incurved section the Empress family are fine in form, but a little small, though time may improve them. Novelty is splendid, as are Lady Hardinge, Hero of Stoke Newington, Princess of Teck, and Barbara.

## CROFTON, AIGBURTH,

The residence of Alfred Holt, Esq. Perhaps the finest plants in the neighbourhood are to be seen here. Mr. Forbes has scored some heavy successes in former years and is likely to do so again. All the older kinds of Japanese are doing very well, and Mrs. Alpheus Hardy is very good, so are W. W. Coles, Puritan, and A. H. Neve. In the newer varieties Vivian Morel is grand, Gloire du Rocher, Florence Davis, Louis Boehmer, Mdle. Marie Hoste, Lilian B. Bird, and Mrs. Levi P. Morton, a bright pink, with base of petals pure white. It is rather soon for many of them, but all the incurved will be very fine.

## THE HOLLIES, WOOLTON,

The residence of Thomas Brocklebank, junr., Esq. Mr. Vaughan, the gardener here, will I am told make his *débüt* at the shows this season, and success ought to meet his efforts. The Japanese are grand, especially E. Molyneux, M. Louise Leroy, Boule d'Or, Puritan

(magnificent), Sunflower, Avalanche, Mrs. F. Jameson, M. Bernard Condor, Belle Paule, Stanstead Surprise, Madame Laing, Sarah Owen and Etoile de Lyon. The finest Queens I have seen this year are here with Emily Dale, Lord Alcester, Golden Empress, and Jardin des Plantes

## ALLERTON HOUSE,

The residence of W. H. Shirley, Esq., can boast of a splendid collection, 350 plants being grown for large flowers, and provision made for cutting by an addition of another 150 plants. In the Japanese (and I may say they excel all Mr. Eaton's previous efforts) Sunflower, Puritan, W. W. Coles, Mrs. F. Jameson, Criterion, Edwin Molyneux, Jeanne Delaux, Avalanche, Madame Laing, Sarah Owen, and Madame Baco. Of newer varieties Florence Davis, which is promising to be a fine white variety; Gloire de Rocher, Sunset, W. H. Lincoln, which is certain to become a popular variety, all the Queen family, Princess of Wales, Miss Haggas, Mrs. Coleman, Lord Wolsley (perfection), Barbara, and Tecks are all unfolding flowers of great promise.

## BROMBOROUGH HALL, CHESHIRE,

The residence of R. N. Dale, Esq., can boast of a collection second to none in the country. Mr. J. Gould, the gardener, made a name last year, but bids fair to eclipse all previous efforts. Incurved Queens, Empress, Lord Alcester, Jeannet d'Arc, Lord Wolsley, Prince Alfred, Refulgence, Jardin des Plantes, Lady Hardinge, Mrs. Heale, Violet Tomlin, Miss Haggas, and Princess Teck are very fine. In this section Mrs. Clibran, a sport from Princess Teck, but much earlier, ought to be very good. Japanese—Avalanche, Puritan, Jeanne Delaux, Stanstead Surprise, Stanstead White, Sarah Owen, T. Stephenson, Edwin Molyneux, Mrs. C. H. Wheeler, Mrs. F. Jameson, W. W. Coles, Marsa, Etoile de Lyon, Madame Baco, and Mrs. Beale are all solid blooms with beautiful colour. Gloire de Rocher, M. E. A. Carrière, W. H. Lincoln, and Lilian B. Bird are established favourites already.—R. P. R.

## FINSBURY PARK.

THE display of Chrysanthemums at this place, so well known to cultivators for many years past in the London district is now at its best, and I venture to say as an annual visitor for a considerable number of years past that, taking it as a whole, in no previous year has it been excelled. The plants are dwarfier than usual, displaying their flowers well below the eye of the observer. The flowers as a rule are clean, bright, and well developed; also the plants are carrying plenty of large, healthy, dark green foliage, which forms the best of groundworks for showing the flowers to their fullest advantage. The plants, some 1500 in number, are arranged in the form of a sloping bank down the centre of a long span-roofed house, the plants sloping gently both ways from the centre down to the pathway, which runs along both sides the house, and are fringed next the path by a single row of dwarf Pompons, low bushes which serve admirably to hide the pots of the large flowering ones, and give a finish and completeness to the bank. We have not space to do much in particularising varieties as there noticed, but may say generally that the incurved section, and especially what is known as the "Queen family," are remarkably fine, and I think are scarcely likely to be seen to better advantage in such numbers anywhere this season. Many of the best varieties of Japanese are not yet fully out. Those popular varieties Avalanche and Etoile de Lyon are well represented by numerous plants, and are at their best. Comte de Germiny is always well grown here, and this year is no exception to such rule. Its near ally also in form and colour, Edwin Molyneux, is well represented by some fine flowers.

Near the entrance I noticed a fine flower of the new variety Vivian Morel, a splendid exhibition flower, similar in colour to the well known Mdme. C. Audiguier, but in form of petal, build of flower, &c., more nearly resembling Avalanche. The new variety Louis Boehmer is represented by a vigorous dwarf plant carrying some half a dozen large but as yet unexpanded buds. This bids fair to be a valuable acquisition, much more tractable and not nearly so shy as Mrs. Alpheus Hardy. The appreciation of the public for this fine display, due principally to the energy and skill of Mr. Mardlin (the foreman and grower), is well shown by the house being packed with visitors from early morning until it is closed at dusk.—VISITOR.

## CHRYSANTHEMUMS IN MESSRS. CARTER &amp; CO.'S NURSERY, PERRY HILL.

IN the course of the next week or so this collection, which comprises some 3000 plants, will be at its best. A large proportion have this year been grown on the cut-back principle, as the plants are more elegant in appearance and more convenient for arrangement. One of the principal features is the new pink Ostrich Plum Louis Boehmer, one of the new feathered varieties, the colour being of a soft lilac plum shade. It is quite distinct in every respect from Mrs. Alpheus Hardy, the original white variety, and promises to be a more certain and satisfactory flowerer. Amongst other leading sorts are excellent examples of Ada Spaulding, Agnes Flight, Alice Carter, Bertier Rendatler, Charlie Sharman, Edouard Audiguier, Edwin Molyneux, Elaine, Etoile de Lyon, Jeanne Delaux, Mdle. Lacroix, W. Holmes, Peter the Great, Sunflower, The Sultan, Bronze Queen of England, Empress of India, Lord Alcester, Lord Wolsley, Miss Violet Tomlin, Novelty, Princess of Wales, &c. There is also a collection designated the Oriental Group, originating in America, and containing some interesting forms, together with some forty to fifty continental introductions. Not the least important are Messrs. Carter's seedlings of 1889 and 1890, showing promise of distinct and valuable properties.





**EVENTS OF THE WEEK.**—Chrysanthemum Shows will contribute the principal horticultural events of the present and succeeding week. To-day (Thursday), Nov. 5th, there are Shows at Highgate, Chiswick, and Wandsworth. On Friday, Nov. 6th, the Crystal Palace Show will be opened, and will be continued on Saturday. Monday, Nov. 9th, commences with a Show at St. Neots, followed on Tuesday, Nov. 10th, by a number of shows, some of which are continued over two, and in one case three days. These are East Grinstead, Kingston, Horsham, Royal Aquarium, Leeds, and South London. The Shows commencing on Wednesday, Nov. 11th, are Birmingham, Bournemouth, Northampton, Swansea, and Croydon. On Friday next, Nov. 6th, an important sale of *Cattleya labiata vera* from Messrs. F. Sander & Co. will be held at Messrs. Protheroe & Morris's rooms, when some extra large specimens will be offered.

— **WARE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.**—At a special meeting held by this Society recently a very interesting and instructive paper was read by Mr. G. Paul, of the Old Nurseries, Chesbunt, on "Fruit Culture on the West Slopes of the Lea Valley." Mr. Paul's remarks were illustrated by a very fine collection of fruit. About 100 dishes of Apples and Pears having been sent from the nursery. The paper was highly appreciated by a large gathering of members and their friends. A hearty vote of thanks was accorded to Mr. Paul for his able paper, and a vote of thanks to the Chairman brought a very pleasant meeting to a close.

— **GARDENERS' ORPHAN FUND.**—At a largely attended Committee meeting of this charity on Friday evening last it was decided that the anniversary dinner be held in February next, and it was resolved unanimously that Sir James Whitehead, Bart., be invited to preside on the occasion. A letter was read from Mr. Tait of Manchester stating that a local committee had been formed in that busy and wealthy city to represent and support the Fund, the Secretary Mr. Upjohn, or his delegate, being empowered to attend the meetings of the Central Committee in London. It could scarcely fail to be of great advantage to the charity if committees were established on the same basis in other great centres of population. Sums amounting to upwards of £11 were received as the proceeds of money boxes or collections from Bristol, Birmingham, and Birdsall, Mr. Wadds sending £5 7s. 6d. Two donations of £5 each were announced, also £250 as the result of a collection of small sums, mainly by gardeners and friends in various parts of the kingdom. Thus a great deal of good will be done at a very small sacrifice by individuals, and the Committee expressed their obligation to all who had collected and contributed to the Fund.

— **GARDENERS' ORPHAN FUND.**—At Ketton Hall Gardens, where Peaches are so well and extensively grown by Mr. Divers, a praiseworthy example has been set. By the kind permission of Mr. and Mrs. Hopwood the fine collection of Chrysanthemums grown there are open to public view on a small payment being made on Thursdays and Saturdays from 2 P.M. till dusk until November 21st, the proceeds to be devoted to the Gardeners' Orphan Fund. Could not many others where Chrysanthemums are grown follow the example of the energetic Hon. Sec. for the Stamford district, and try and persuade their employers to allow a similar exhibition, if only for one afternoon?—H. W., *Stamford*.

— **GARDENING APPOINTMENTS.**—We are informed that Mr. Albert Baxter, late foreman to Mr. T. H. Crasp, Canford Manor, Wimborne, has been appointed gardener to Henry Lewis, Esq., Greenmeadow, Tongmynlais, Cardiff. Mr. Walter Madge, foreman at Parker's Well Gardens, Exeter, has been appointed to succeed Mr. C. Lock at Culver, Exeter. Mr. Arthur Allsop, who was plant decorator at Trentham, succeeds Mr. Leach at Bryanston House, Blandford.

— **TREES AT RICHMOND TERRACE.**—The London correspondent of a local paper says:—"Richmond Terrace, whence can be obtained a view over the Thames Valley which Sir Walter Scott pronounced to be 'unrivalled,' and which was equally beloved by

Turner, will shortly lose one of its distinguishing beauties. The stately Elms that line the terrace are all internally decayed. Some must come down at once, and the rest, it is feared, cannot last much longer. It was under these trees, readers of 'Pickwick' will remember, that Mr. Tracy Tupman walked with 'a youthful and jaunty air,' which rendered him 'the admiration of numerous elderly ladies of single condition.'"

— JUST as we are going to press we have received a telegram, from which we learn that the PORTSMOUTH CHRYSANTHEMUM SHOW is an extremely fine one. The Jubilee prize of £8 for eight trained specimen plants is won by Mr. Penford, Leigh Park Gardens, Havant. In the class for forty-eight cut blooms Messrs. W. & G. Drover, of Fareham, have won the piece of plate value £25 and £8 in money as the first prize, and are followed by Mr. Payne of Emsworth, Mr. N. Molyneux, and Mr. Agate. Messrs. Drover won the challenge prize last year, and it therefore now becomes their property in accordance with the conditions imposed by the Society.

— MR. HENRY MARDLIN, the well-known Chrysanthemum grower at Finsbury Park, is about to resign the position he has held since the formation of the Park, as foreman and propagator. And Chrysanthemum cultivators ought not to allow him to retire without some expressions of esteem for one who has done so much to popularise our queen of autumn. The public display at Finsbury Park was initiated mainly through his exertions, and save for those of the Temple Gardens, was the first of the kind in the metropolis. The flower loving public of North London, too, will lose in Mr. Mardlin a valuable public servant. —VISITOR.

— **GREENHOUSE FLOORS.**—The builder of my greenhouse (40 by 20) has laid the tiling of floor almost level, therefore causing all water to lie about unless mopped up or allowed to dry, there being no channels or waterways. To relay would be somewhat costly, besides the builder says all greenhouse floors are so laid. I beg to differ. What is your readers' opinion? Any suggestion as to remedy, and as to whether builder's contention is correct, will be esteemed.—W. B. BECKETT.

— **EARLY PLANTING OF APPLES.**—Mr. Luckhurst's excellent paper on the advantage of autumnal planting ought to be convincing, but there are some still, I fancy, who do not believe in trees and shrubs making roots during the winter. The commencement of the great frost last year found me with one Apple tree still unplanted. It was laid in overnight, and in the morning could not be moved. At the earliest possible opportunity, at the conclusion of the seven or eight weeks' frost, we lifted the tree to plant it, and found that several little white roots had actually been formed during the frost.—W. R. RAILLEM.

— **DACTYLIS GLOMERATA VARIEGATA.**—I have previously touched on the great utility of this beautiful Grass for bedding purposes, I now wish to call attention to it as a useful addition to the list of plants suitable for indoor decoration. For this purpose it is one of the best plants in its own particular style that I am acquainted with for use during the winter and spring months. At those seasons of the year suitable materials in small pots for finishing groups of plants, and arranging around larger plants in vases, are not generally plentiful, and as this can be had in quantity then with but little trouble, it is all the more welcome, especially as it supplies a fine variegation of foliage, which is so desirable for intermixing with Ferns and *Isolepis gracilis*, both indispensable plants to the house decorator. Those who are fortunate enough to have a good stock in any position in the open air should, as soon as possible, lift some of the roots, divide them, and place them in pots of various sizes, pressing the soil very firmly, and then plunge the pots over their rims in coal ashes in the open air. In this position they should be left for a few weeks till the growth has thoroughly died. They should then be taken into a structure where they receive gentle heat, and can be kept near the glass. A heated pit or shelf in a warm greenhouse are capital positions for them, there they quickly develop their growth. When this has become a little hardened by a free circulation of air the plants are ready for use wherever required. When once a good stock has been obtained the roots can be thrown away after being used, as this Grass increases so rapidly that a few roots divided in the spring and planted out in a sunny position, are ready for use in the autumn, and one of the chief features of its usefulness is that they only occupy space under glass while they are making growth, and as the spring months advance they may be brought on quickly enough in cold pits.—H. D.



— AT a recent meeting of the Richmond Athenæum the Rev. G. Henslow delivered a lecture on INSECTIVOROUS PLANTS of which the following is a synopsis:—Insectivorous plants are found in at least six distinct families—Examples of methods of capture (picture form)—*Sarracenia*, *Nepenthes*, *Cephalotus*, *Discoidea* (viscid glands)—*Drosera*, *Pinguicula* (traps)—*Dionæa*, *Aldrovanda*, *Utricularia*. The same methods are found in widely different families; hence it is an acquired property—Proofs of absorption and uses to the plant, as especially benefiting the reproductive system—Insectivorous plants compared with parasites—Specialities of each species, *e.g.*, in movement, structure, methods of secretion, absorption and digestion—Identities between the animal and vegetable kingdom in irritability, of protoplasm, mobility, and electrical phenomena—Secretion of acid and digestive ferments—Effects of poisons and anæsthetics, &c.—Suggested origin of the secretion of ferments and the absorption of nitrogenous nutritive matters.

— NOTES AT ROBY HALL.—Whatever may be said in praise of the beautiful *LILIUM HARRISI* is not in the least more than it deserves. Last April I had the pleasure of seeing some of the finest plants I ever remember growing at Roby Hall. Visiting Mr. Jones, the gardener at the Hall, recently, I was struck by the fine specimen of this *Lilium*, some expanding and many in bud. One plant in an 8-inch pot carrying forty fine flowers was very good. These were the same bulbs I had seen in April, and were flowering the second time. By keeping some cool he will be able to have some of them in flower at Christmas, when they will prove a great acquisition.

— MYRSIPHYLLUM ASPARAGOIDES.—For decorative work this very pretty climber cannot be surpassed. Planted in a narrow border, and trained to upright cords about 5 feet long and 2 inches between, and completely covering the back wall of the late vinery, was this plant in perfection. When wanted for decoration the cords are simply cut away, there being not the slightest entanglement when trained this way. The pleasing shade of green shows up remarkably well by gaslight.

— LYGODIUM SCANDENS.—Exactly in the same position in two other vineries, but allowed an extension over the pathway, is this fine old climbing Fern. The finely cut fronds present a very beautiful appearance, and the uses to which they may be put for table decoration are various. It is a very clean Fern, and for clothing back walls of vineries is at once ornamental and useful. A mixture of loam, peat, lime rubbish, and sand forms a good compost in which to plant the two latter, and with an annual top-dressing the plants can be kept in perfect order for a number of years.

— NOTES AT ALLERTON BEECHES.—Standing out like veritable giants are six fine Beech trees, from which the name of the house has been taken. I question if finer could be found in any part of Lancashire. When calling on Mr. Edwards, the gardener to Henry Tate, jun., Esq., I found I had not arrived at the best time of the year to see the specialities grown here, but a few notes hurriedly taken were worthy of record. Orchids are undoubtedly the chief pursuit, and the houses they are occupying are as perfect as it is possible to find them. Made throughout of the best pitch pine they are stained a dark oak colour instead of paint, and are very pleasing. The supports to the stages are resting in zinc trays, which are always kept filled with water, thus making it an impossibility for insects to find a way up to the stage. Leaves underneath the trellis in Orchid houses have been advocated and condemned. Mr. Edwards is a firm believer in their use. He has the trellis made in sections, which can easily be lifted, to keep up a fresh supply of leaves. By this means a uniform moisture is secured, and the zinc trays keep at bay the attack of slugs, &c., if there are any, contained in the leaves, and the plants throughout all the houses were in the very best of health. Some fine *Odontoglossums*, *Lælia Dayana*, and two very healthy plants of *Vanda Sanderiana* growing in teak cylinders, suspended from the roof, and carrying ten and twelve flowers respectively, were conspicuous. Mr. Edwards has six or seven batches of seedling *Cattleyas* and *Cypripediums*, numbering scores of plants. The crosses are from some of the finest varieties, and many of them present scarcely any appearance to the parents. They are being carefully tended. I must leave the Orchids for a future note.

— *LILIUM AURATUM* planted outside was really fine, one bulb having forty flowers, and on another a spike with twenty-eight flowers. They are from English grown bulbs, the imported ones having been failures over and over again. Lemoine's hybrid *Gladiolus* were in full flower. There is no doubt about their being acquisitions, as they had

stood the last severe winter without protection, many of the flowers being as fine as any type of *gandavensis*; and lastly, *Pyracantha præcox*, glowing in all its beauty against the front of the house, and what a contrast to some Ivy growing in close proximity. It is a fine place, and may be dealt with more fully at a future date.—R. P. R.

— THE DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—At a meeting of this Society, held on October 10th, 1891, the Floral Committee awarded the following:—First-class certificates to Mr. J. T. Van Den Berg, jun., Jutfaas, for *Dahlia variabilis* König Karl and Adrien de Mortillet; to Messrs. Groenewegen & Co., Amsterdam, for *Dahlia* (Cactus) Paul Schelosky and Maid of Kent, and (single) Frau Dr. Sophie Rhoden; to Messrs. E. H. Krelage & Son, Haarlem, for *Dahlia variabilis* Euphrosyne, and *Gladiolus naneeianus* le Grand Carnot; to Messrs. Anton Roozen & Son, Overveen, for *Chrysanthemum* Mrs. Hawkins, *Crinum speciosum*, and *Dahlia* (single) Mr. H. L. A. Obreen; to Messrs. Zoehér & Co., Haarlem, for *Dahlia* (Cactus) Maid of Kent, Centennial, Edmund Weekly, John Bragge, Vosmaer, (single) Frau Dr. Sophie Rhoden, Gertrude, Miss Reamsbottan, and *Purpurea*; to Mr. N. De Zwaan, Utrecht, for *Begonia Baumannii*. Second-class certificates were adjudged to Mr. J. T. Van Den Berg, jun., for *Dahlia variabilis* Albertine; to Messrs. E. H. Krelage & Son for *Dahlia variabilis* Aglaia and Thaleia; to Messrs. Anton Roozen & Son for *Chrysanthemum* Duchess of Fife; to Messrs. Zoehér & Co. for *Dahlia* (Cactus) Amphion and Zulu. A botanical certificate was awarded to Messrs. De Graaff Brothers, Leiden, for *Gladiolus Eckloni*. Votes of thanks were accorded to Mr. J. T. Van Den Berg, jun., for a collection cut flowers of double tuberous *Begonias*; to Messrs. Groenewegen & Co. for a collection of *Dahlias* in twenty varieties; and to Messrs. E. H. Krelage & Son for a collection of *Gladiolus gandavensis* in fifty varieties.

— THE RAINFALL AT WINCHFIELD, HANTS.—The total amount of rainfall in these gardens (Elvetham Park) for October was 7.16 inches. The total for the ten months, 26.65. The heaviest fall was 1.24, on the 7th. Rain fell upon twenty-two days. This is the largest quantity ever registered in one month, an account having been kept for the past eighteen years.—JAMES FOSTER.

— THE TOTAL RAINFALL AT CUCKFIELD, SUSSEX, for the past month was 7.83 inches, being 3.95 inches above the average. The heaviest fall was 1 inch on 22nd. Rain fell on twenty-two days. Highest temperature 64° on 9th; lowest 30° on 31st. Mean maximum in shade, 56°; mean minimum, 42°; mean temperature, 49°. Partial shade readings, 3° above the average. Last five days fine and dry, and land once more workable.—R. I.

— WEATHER IN THE NORTH.—October closed with ten days of fine seasonable weather, the days bright and pleasant, with frosts of from 3° to 9° on the night of the 30th. The first decided frost was on the morning of the 18th, 3°. The grain crops in this quarter have been, with considerable trouble and anxiety, secured in satisfactory condition, and Potatoes are turning out well, with but little disease. Turnips are also being taken in hand, a fairly good crop generally. Many trees are already stripped of foliage, the sharp frosts shortening the autumn display.—B. D., *S. Perthshire*.

— THE WEATHER DURING OCTOBER AT RIPLEY, YORKS.—The first three weeks were very wet, rain falling upon twenty-one out of the first twenty-four days. On the 25th a welcome change set in, and we were favoured with fine weather to the end of the month. Frost occurred upon seven days. Total rainfall for the month, 4.33 inches, which fell upon twenty-two days. The greatest daily fall occurred on the 10th, when 0.65 of an inch was registered. During the last few days the barometer ranged very high; at 9 A.M. on 31st it stood at 30.82, at which point it stands as I write (November 2nd). Mean reading of barometer for the month, 29.83. Mean maximum temperature, 55.1°; mean minimum temperature, 35.8°. Mean temperature of month, 45.5°. Highest maximum temperature, 63° on the 5th; lowest minimum temperature, 27° on the 30th.—J. TUNNINGTON, *Ripley Castle Gardens*.

— REPORT OF WEATHER FROM OBSERVATIONS TAKEN AT HAMELS PARK.—The past month has been of a very deluging character. There has been a continual drizzle with an occasional heavy downpour. We have also experienced some very heavy gales of south-westerly wind, such as I do not remember our having since October, 1881. The heavy rainfall during the past month has been very beneficial in many places, as the water supply was getting very short. There has been almost a total absence of sunshine, and the same may be said of frost until the morning of the 31st, when 6° were registered, which completely



blackened Dahlias and other plants. Rain fell upon twenty-one days during past month. Maximum in any twenty-four hours, 0·60 inch on the 6th; minimum, 0·01 on the 17th. Total for the month, 5·07; against 1·87 of 1890.—E. WALLIS, *Hamel's Park Gardens, Buntingford, Herts.*

— EXCESSIVE RAINFALL IN HAMPSHIRE.—The year of 1891 appeared in September likely to end with amount of rain below the average. Now after such a drenching October that is a thing of the past, and we have already had for this part more than the average. Rain fell here on twenty days; most rain fell on October 6th, when 1·25 inch was registered as having fallen in twelve hours. The next heaviest was on the night of October 19th, when 0·83 inch fell. The total amount for the month was 10·30 inches. We had no frost here until the night of October 28th, when we had 2°. Until that date such tender bedding plants as Coleus and Iresine were looking as well as in August, a rather unusual occurrence. I may state our garden is on a hill, and sheltered by trees.—A. J. L., *near Stockbridge.*

— RAINFALL IN HAMPSHIRE.—Since writing my last note on the rainfall here sixteen days ago we have had sufficient rain to exceed last year's whole total by 1·35 inch, having registered 5·72 inches, making in all for the present month 7·98 inches, which, as far as my memory carries me, is quite unprecedented for any month, and especially October. Up to the present date, 26th, we have had but four dry days as compared with eighteen last year. Last year's rainfall for the first twenty-six days of October was but 0·89 inch. What a difference between the two seasons. Our total now for the year up to date is 28·52 inches, which is really not in excess of our average rainfall. On Thursday we had twenty-four hours' continuous rain.—E. M.

— THE FLOODS IN SOMERSETSHIRE.—It is widely known (writes Mr. R. Harty Dunn, Street, Somerset) that some 80,000 acres of Somersetshire moorland are under water owing to the heavy rains, the recent high tide, and the breaking away of the embankments of the Rivers Parrott and Brue. But it is not so well known that in consequence of this deluge (the like of which has not been witnessed in this generation) a large number of labourers and small farmers are on the brink of utter destitution, and not a few have had to appeal already to the local poor law unions. The Wheat crop, the Potato crop, and in fact everything, including the peat or "turf" industry, upon which these poor people were relying for subsistence now and during the coming winter, have suffered to such an extent as to create quite a local famine. Men can go by water in boats right over the crops which were their sole dependence.

— RAINFALL AT DARTMOUTH.—Mr. T. Gard, The Gardens, The Beacon, Kingswear, Dartmouth, writes:—"I send you a few notes with respect to the rainfall during the past six months, thinking perhaps it may be interesting to you from this locality. I commenced registering the rainfall on the 1st of May last, and the following are the results:—In May 3·04 inches fell on eleven days, in June 3·83 inches fell on ten days, in July 3·72 inches fell on twelve days, in August 7·07 inches fell on fifteen days, in September 2·46 inches fell on twelve days, in October 10·41 inches fell on twenty-four days; the total was 30·53 inches on eighty-four days. The heaviest falls on one day were as follows:—On the 18th August 1·02 inch, on the 21st August 1·98 inch, on the 1st September 1·02 inch, on the 6th October 1·30 inch, 7th October 1·27 inch, and the 19th October 1·25 inch. For this hilly locality the summer has been very beneficial to the growth of all vegetable crops, but I am afraid the lack of sunshine will tell on the rather soft and overgrown wood of the fruit trees. I gathered a good crop of Peaches and fair crop of Plums, but these cracked badly. Apples were a good crop; Pears scarce. October has been a month long to be remembered, as nothing could be done on the ground; but the weather is now much improved—dry, but very cold easterly wind."

— MR. ALBERT BENZ divides GARDEN PANSIES into six classes, according to the manner in which they are coloured. The first class comprises self-coloured flowers—that is, those which have an even shade spread over the whole surface of each of the petals. They may be white, yellow, bronze, mahogany, brown, purple, lavender, violet and nearly all intermediate shades. They can be depended on more largely than the other varieties to come true from seed. Shaded Pansies constitute the second class, in which the flowers have the darkest shade of a given colour at the upper end of the upper petals gradually graded down to a lighter shade toward the bottom end of the lower petal. Others of this class are darkest in the centre and

shade gradually into a lighter tint toward the edge of all the petals. The Three-spotted or Face Pansies include the flowers which show a distinct mask, or face, in their centre—that is, a dark spot on each side of the side petals, and a broad and larger one on the lower petal. This includes most of the English Pansies and the new French Trimardeau, a remarkable sort for the size of its flowers, which are, however, somewhat deficient in substance and richness of colour. The Odier or Five-spotted Pansies have a white, yellow, blue, crimson, or brown colour and a large dark spot on each one of the five petals. To be perfect, these spots, starting from the centre of the flower, should cover two-thirds or three-fourths of its surface, and be of equal dimensions on each petal with a well-defined outline. Cassier and Bougnot have succeeded in improving this class materially in size of flowers and growth of foliage. Edged or Border Pansies have flowers with a narrow, but distinct, edging around the outside of each petal of a colour which contrasts well with the ground colour of the flower. The colour of the border is generally white or gold when on blue, purple, or bronze flowers, and blue or pinkish on white and yellow flowers. The sixth and last class, called Fancy Pansies, have the marble-striped and flaked flowers, which are distinguished by great oddity and beauty in their colouring and marking.—(*American Garden and Forest.*)



THE AUTUMN FLOWERING CATTLEYAS.

A LARGE company of buyers and on-lookers assembled on Friday last at Messrs. Protheroe & Morris's Rooms, Cheapside, to see the consignments of autumn flowering Cattleyas from Brussels, and a beautiful display was provided. Rarely indeed can an exhibition of Cattleyas in flower be seen at the end of October, and all present were agreed as to the value of plants that yield such richly coloured flowers so abundantly. There was a keen competition for some of the finest specimens, and the total amount realised must have been considerable.

Messrs. F. Sander & Co., St. Albans, also announce a sale for next Friday, November 6th, in the same Rooms, of 1000 grand plants of "the old labiata." Some examples of these were shown at the recent meeting of the Royal Horticultural Society, fine vigorous specimens with large pseudo-bulbs and leaves. It is said that some of the masses are 6 feet in diameter.

There can be no question that, under whatever name these autumn flowering Cattleyas are known, they are certain to become extremely popular. If a supply of flowers can be had from now until Christmas—and there seems to be every probability that this will be the case—it is easy to imagine how useful they will prove to many who have large demands for cut flowers to meet during these months. Easily cultivated, freely flowering, and presenting a great range of variation in form and colouring, they have much to recommend them to the attention, not of Orchid growers alone, but also of all who are concerned in plant culture generally.

I have much more to say upon this subject, but space will not permit this week; and a review of the *Cattleya labiata* varieties with especial reference to those which flower in autumn must be reserved for another issue.—L. C.

### STREPTOCARPUS GALPINI, *Hook, f. (MS).*

DURING the past week a handsome new *Streptocarpus* has been flowering in the Royal Gardens, Kew, and we are pleased to be able to give the appended woodcut (fig. 76), prepared from an excellent sketch of the plant natural size. We learn that the seeds of this *Streptocarpus* were received last summer from Mr. E. E. Galpin of Barberton, Transvaal, but only one plant has flowered up to the present, though there are many others advancing which are expected to prove larger in the leaf, and to be even more floriferous than the one represented in our engraving. The leaf is very fleshy, the veins are thick, and the whole is covered with a soft silky pubescence, making surface appear quite silvery. The flowers are



bright purplish blue, with a clearly defined white throat, and they have a very distinct appearance, owing to the corolla being flatter and more shallow than the majority of the forms best known in gardens. As it is very free, and the colour is

and hybrids form an attractive margin to the paths in the succulent house.

We understand that Mr. Watson has already crossed this species with the fine hybrid he succeeded in raising several years ago—



FIG. 76.—STREPTOCARPUS GALPINI.

so bright, it will prove of considerable horticultural value either for culture in pots or for planting out in an intermediate temperature. At Kew the numerous *Streptocarpus* varieties

namely, *S. Watsoni*—and it is probable that another equally valuable race will be obtained. A coloured plate and full botanical description will shortly appear in the "Botanical Magazine."



## POTATO DISEASE EXPERIMENTS.

YOUR reporter, after recapitulating on page 340 part of what occurred on Friday, 16th, at Reading, winds up by stating, "Here is the significant summary, and there cannot be a doubt of its absolute correctness." That it stated the facts is quite right, but had he examined the figures he would have seen that 601 rows were planted with varieties that were injured by the mixture and only 209 rows with those that benefited. Had the rows been equal the result would have been 6 cwt. 0 qr. 14 lbs., and not 11 cwt. 1 qr. 4 lbs., a result quite serious enough, but rather altering the proportion. I must also ask your reporter where he ascertained that the Board of Agriculture recommends the dressings and areas to be dressed that he states he wishes to recall to your readers. I do not hesitate to inform him they never existed outside his brilliant imagination, and I have that assurance from Major Craigie himself, who stated that the pamphlet issued in May containing an account of what had been done in various places was all that had been sent out, and he expressed a wish to see a copy of your paper containing the mythical instructions. The gentleman who reported on the trial evidently never saw that pamphlet, also as evidently did what nearly all the gentlemen of the Press have done, and that is, hashed up Messrs. Suttons' printed report and flavoured it according to taste. I am extremely anxious to learn where he discovered that there is any particular term for the fungoid attack to be most dangerous, as I should be glad to forward particulars to U.S. Agricultural Department, who have been most generous in supplying me with information.

Having made these remarks I wish to state that in no way am I animated by a desire to question that the trial was not made by Messrs. Sutton with an honest desire to benefit the Potato grower. Some of the figures given in the report prove this, as it shows varieties not of their raising in a most favourable light as regards cropping. I was most kindly invited down, and only regretted that some mistake had been made in the preparation or application of the mixture preventing it being a success. I was the last to be prepared to find the mixture positively injurious, and I fancy your readers after perusing what follows will not be surprised I was so. At Sittingbourne, Kent; Cardington, Bedfordshire; Isle of Axholme, Lincolnshire, in South Wales, Devonshire, and Lancashire, the R.A.S.E. have applied three dressings of 2 per cent. mixture to a 2-acre plot of Potatoes. The first dressing was applied to all the plots between June 29th and July 13th; the second from July 15th to July 27th. I have no information as to the third. 75 gallons of mixture per acre was used at the first, and 100 gallons at the second; no knowledge of quantity at the third. Regents were the variety planted at Sittingbourne, Daniels at Cardington. At Sittingbourne the owner of the Potatoes, Mr. Cobb, had 9 acres of Regents dressed twice with a 2 per cent. mixture in the same field as the plot experimented upon by the R.A.S.E. It was put on by his own labourer with an Eclair, under the superintendence of his intelligent bailiff, who had helped Mr. Riley, who made all the experiments for the R.A.S.E. None of the bine upon these several 2-acre plots or upon the 9 acres of Regents was damaged by the mixture. I saw the 11 acres of Regents in Kent on 21st of September. They were then green and growing. Regent bine untreated alongside or treated with  $1\frac{1}{2}$  per cent. of the mixture only, all long killed down by blight. The plots in South Wales and Bedfordshire have now been weighed and show handsome increase per acre over Potatoes untreated. The firm upon whose farm in Bedfordshire trial was made wrote me they are well satisfied with the utility of the mixture. At Sittingbourne and Cardington the R.A.S.E. are trying various strengths of mixture, and at the latter place an experiment with sulphate of iron instead of copper is added. At Bewdley, Worcestershire, Mr. Thomas Harley dressed at the end of August Maincrop, Bruce, and Early Puritan once with 30 per cent solution. Result, no damage to bine, and as far as could be seen improvement over other varieties in fields adjoining.

At Chessington Hall, Surbiton, Mr. H. Chancellor dressed a plot of Hebrons in the wettest part of a large field with 2 per cent. mixture twice, and a plot of Jeannie Deans in the middle of a field once with 4 per cent. on 5th August. On 29th August when I saw them the Hebron bine not dressed was all dead with disease; treated plot untouched and ripening off. The Jeannie Deans were a grand green colour; the same variety alongside untreated all killed down. Both these plots sustained no damage from Bouillie Bordelaise, and upon being weighed gave an increase of some tons to the acre over those not treated.

Deeping St. Nicholas, Spalding. On 3rd July I here applied 2 per cent. mixture to 12 square rods of Maincrop in the middle of an 8 acre field, also to Puritans, Internationals, Myatt's, White Beauty of Hebron, altogether about twenty odd sorts, upon my trial ground of 3 acres, many of the varieties being those that Messrs. Sutton state were damaged by the mixture; so many yards of a row of each variety were treated. I also dressed a plot of Puritans in another part of the farm. On 1st August I repeated the application to all with 3 per cent. mixture, and later on put 3 per cent. again on the Puritans. On 2nd October Maincrop bine treated was still green, the rest of the field all killed down with disease, and only half the crop of treated part. I dug some yards of all the various sorts on the trial ground, found that the mixture had failed to protect all the tubers of some varieties, more especially Internationals, but in every case the crop was double on treated Potatoes. The plot of Puritans when dug had not a diseased tuber, and was double the crop of those alongside not treated, which were half bad. Not a leaf at Deeping St. Nicholas was damaged of any variety. On 18th July I put 3 per cent. mixture on ten varieties on two plots at the end of an oblong piece of Potatoes on my trial grounds at Cliffe, Rochester. On 24th August, on

my return from Lincolnshire, I found all the rows between the plots killed by disease; the bine of both plots were green, though one was slightly more spotted with blight than others. I applied 3 per cent. mixture to both; it saved bine, on that least affected entirely, and it ripened off grandly; other went with disease in places most spotted. In this instance also not a leaf was damaged and the crop increased.

On September 5th I had 2 acres dressed of Reading Giant especially planted late (June 18th) to try the effect of one dressing of 3 per cent. Bouillie Bordelaise put on late in stopping disease. Having a desire to ascertain the cost of application I had mixture applied by ordinary farm labourer. He went the longest way about the work, and took two days and a quarter, quantity applied 260 gallons on 2 acres. I had half a day with the Eclair and reckon I could do an acre in three-quarters of a day. The solution stayed the disease on the bine for some time, and in this case no damage to bine except where the stuff was prepared by labourers from my written directions, and I burnt off the bine of nearly half an acre. I had intended this two acres to be treated before the 5th, but the foreman was short of labour, and it was ten days after I sent copper down that the mixture was put on; by that time all the leaves were spotted. On 11th September I dressed at Branstane, Edinburgh, some Maincrops, Regents, and Abundance, and some Abundance at Easter Duddingston, and Portobello; in the latter case with the energetic co-operation of the Editor of the *N.B. Agriculturist*, who selected the farms most likely to suit my purpose in the North. On the 15th I put the solution on to some Shaws, Reading Giants, and other varieties on my trial grounds at Pancathy Mill, Carnoustie, and on the 16th on to some Imperators on the farm of Balhousie, Carnoustie, near Arbroath; mixture used in the North, 1 lb. copper, 1 lb. lime, to 26 pints of water; object to ascertain if one dressing in Scotland would check disease once it had taken hold. No damage to a single leaf took place, but as far as the top was concerned it did no good.

In 1890 Mr. E. S. Goff of Madison carried out some experiments for Mr. B. T. Galloway, Chief of the Division of Vegetable Pathology, upon the farm of Mr. A. L. Hatch, Ithaca, Richland County, Wisconsin, U.S.A. The farm is light clay loam, is in good cultivation, on the top of a hill, and not far short of 1000 feet above sea level. May, June, and up to July 13th, it was wet; in August, in twelve days, 3.46 inches of rain fell, and in September 2.5 inches in six days. Variety planted Snowflake; mixture 6 lbs. lime, 4 lbs. copper, to 22 gallons water. First application July 3rd, last September 2nd; no damage done to the bine by the mixture. Middle of August treated bine still green, untreated beginning to spot; result of treatment an average gain of 400 odd lbs. upon each of the four 16 rods treated against 16 rods left to Nature.

To give an idea of the rain, some of the sets were washed out of the ground. The foregoing experiments were carried out under different climatic influences; the crops were cultivated in various ways, and give a better criterion of the value of the mixture than Messrs. Suttons', which was of practically one strength three times applied to the Potatoes—exposed to the same climate, on the same soil, and cultivated one way. It is true there were 278 sorts, but a mistake in the preparation or application affected the result on the whole plot, and only those varieties that were strong or got less of the mixture would escape being injured.

As to the value of disease resisters, there are none; all take it more or less. Had the Abundance at Reading been cultivated highly enough to enable a man to live by growing them for market they would have been half bad; and the robust varieties, even when not taking it in the tubers, have the bine killed down by blight, causing want of quality in the crop and lowering its value in the market by 30s. ton or less, according as it is grown on good quality soil or the reverse. Magnums are being sold here now that cook like soap, simply because the bine was blighted before they were ripe. A mixture that will allow the Potato to complete its growth, even if it does not save all the tubers, is well worth applying at a cost of 25s. an acre. I have faith enough to use it next year on 100 acres to Potatoes grown to supply the London market (the cheapest in the world), and not cultivated to sell at fancy prices. —WM. WHITEHEAD COUSINS, *Covent Garden Market*.

[Our reporter appends, by our request, his observations on the foregoing communication as follows:—Mr. Whitehead Cousins' compliment to the brilliancy of my imagination is exceeded by his own. I had no occasion to "imagine" anything, for all I had to do in reference to the dressings (not "areas") recommended, was to copy the mixtures and applications from a document (not Messrs. Sutton's printed report of the trials) now in my possession.

As your correspondent is so sure I had not seen the May pamphlet of the Board of Agriculture, may I suggest it would have been kind of him if he had sent me a copy? Also may I further suggest if this pamphlet was intended to reach the greatest number of cultivators of Potatoes, that a copy ought to have been sent to the *Journal of Horticulture*? No doubt, so far as a very large number of Potato growers are concerned the pamphlet itself is "mythical," for they know nothing about it.

Mr. Whitehead Cousins is good enough to suggest that "nearly all" the gentlemen of the Press are in the habit of "hashing up" reports. If voluminous contributions to various newspapers entitle writers to be regarded as "gentlemen of the Press" he must of necessity be included in the army of hashers.

The report which appears to have offended your correspondent was a record of facts, which he cannot impugn except on the ground that Messrs. Suttons have blundered. They know best about that; their custom is to conduct experiments with the utmost care and to state the



results with great precision. I have more than once heard Dr. Voelcker bear testimony to this, and something more than negative evidence seems requisite for sustaining the allegation. In referring to sulphate and copper and lime dressings generally, I clearly stated they had in "some cases proved beneficial." I had seen this in Mr. Chancellor's experimental plots, and this gentleman kindly promised to send me some particulars in due time. The sulphate of iron was not efficacious with him, nor was the powder; and the sulphate of copper was undoubtedly the reverse of efficacious with the great bulk of Messrs. Sutton's varieties. To suggest otherwise would be hashing of a most contemptible character, for it would amount to a subversion of facts.

These were apparent enough at Reading without the figures. I venture to say that the gentlemen who examined the crops really did know the good from the inferior yields when they saw them on the ground, and it is a little unfortunate that Mr. Whitehead Cousins was not able to attend, and point out to the visitors on the spot the cause of the disparity. If it is true, as he says, "a mistake in the preparation or application" of the mixture "affected the result," the records are obviously worthless.

Mr. Whitehead Cousins states he is "extremely anxious to learn where I discovered that there is any particular term for the fungoid attack to be the most dangerous," adding he would like to forward the particulars to the U.S. Agricultural Department. The information is not wanted for our own Agricultural Department, but the American. Why is this? I should be sorry to presume that either of the Boards were in need of particulars on the subject, as it would be a reflection on their capacity. Mr. Galloway requires none of my aid in respect to fungoid attacks and prevention. He sends me his masterly reports, which have many times formed the basis of articles in this Journal. This, however, does not answer the question of discovery of the disease term. Not myself alone, but numbers of men, who have evidently had longer experience in Potato culture than has your correspondent, know very well the term of greatest danger, and I do not hesitate saying that in the absence of this knowledge much time and material must be wasted if Bouillie or any other applications come into anything like general use, because it or they will often be applied when not in the least required.

Well-trained and observant gardeners know well the conditions and state of growth that predispose to the fungoid attacks on plants, Vines, &c., under glass, and can, if they wish, incite, or with proper means prevent, those attacks. Potatoes grown in a frame divided in two parts have been free from disease in one part, attacked in the other, the variety and the soil being identical, but the character of the growth made to differ through changed conditions artificially produced. Similar conditions provided in a natural way are followed by similar results.

If Mr. Whitehead Cousins had been working among Potatoes from 1845, taking careful notes of observation for more than forty years, and making experiments for testing various theories during that time in a district in which Potatoes are a staple crop, he would scarcely have asked a question of such a rudimentary character. It would be difficult to make the subject clear to him on paper, but easy enough to point out among growing crops in fields or gardens. He will find it out if he continue his experiments, the record of which is interesting, and the knowledge so gained will be of great advantage and save "broth."

His dictum that varied conditions should form the basis for conducting experiments with exactitude, and tabulating results with accuracy is somewhat novel. A number of varieties of Potatoes grown in the same soil, same climate, and the same way, is a fair way for comparison; and if in the course of time something is discovered that acts beneficially under all circumstances so much the better, but initial experiments must be based on as near as possible identical concrete conditions, or variations in results would be ascribed to differing causes. At Reading they can only be accounted for by alleged mistakes.

Mr. Whitehead Cousins is to be congratulated more on his assiduity in the experimental work in which he is engaged than on the appropriateness of his references. He ought to have known that "all" writers are not mere hashers up of what they can get of the work of others, and if he is a Potato dealer, as I am informed he is, his suggestive allusion to "fancy prices," would, to say the least, have been as well omitted. Prices, high or low, have no bearing on the case. Perhaps he knows that crops of Potatoes varying from 10 to 14 tons (Ware) per acre have been secured this year without "broth," and I think he knows one grower at least who has produced them. On the contrary, it is probable that disease ravages might have been materially restricted by the application of remedies properly applied and repeated as necessary at the right time. Yet there can be no doubt whatever that the raising of varieties, substantially of a disease-resisting nature, has been of enormous value to both growers and consumers.

In some cases sulphate of copper, both in liquid and powder form, has been of distinct service applied to Tomatoes, but in other cases there have been practically no results. If its failure is the outcome of blunders, let those be sought for and pointed out in the interests of all who are interested in the subject. It is easy to make mistakes both in working and writing.]

## ROYAL HORTICULTURAL SOCIETY.

OCTOBER 27TH.

SCIENTIFIC COMMITTEE.—D. Morris, Esq., in the chair. Present: Dr. Hugo Müller, Professor A. H. Church, Rev. W. Wilks, Dr. F. Oliver, Mr. McLachlan, Mr. F. D. Michael, and Dr. Masters.

*Primula Mould*.—Mr. Massec reported upon a specimen submitted

to him for examination from Mr. Wolley Dod. The mould in question is *Ramularia primulae*. It has occurred in various parts of Europe, but is believed not to have been previously recorded from Great Britain.

*Water Plant*.—The capsules sent by Mr. Barr from Constantinople were ascertained to be those of *Iris pseudacorus*.

*Pear Spot*.—Mr. Hinds sent a Pear with irregular depressions on the surface, corresponding to a black patch of decay within, and probably of fungus origin. The condition is familiar to Pear growers in the case of certain varieties, but little is known of the inducing causes. It was referred to the mycologists at Kew for further examination and report.

*Wallflowers with Clubbed Roots*.—Specimens were exhibited in which the roots presented a similar appearance to that of "clubbing" in Cabbages. It was suggested that the condition was due to the presence of a Myxomycetous fungus rather than to insect agency. The specimens were accordingly sent to Mr. Lister for report.

*Hunting Spider*.—Rev. O. P. Cambridge reported on a spider received from the Royal Botanic Garden, Kew, on more than one occasion, and called by Mr. Cambridge *Salticus citus*, though possibly identical with *Hasarius adansonii* of Sauvigny. It is a native of Amboina and other parts of the tropics. The Kew example is an adult male; the female is stouter and of a dull brown hue. The species is partially naturalised in the hothouses at Kew, and is interesting from its agile habits.

*Fog Investigation*.—Dr. Francis Oliver announced that he was working with the Manchester Committee, and to whom a moiety of the Government grant had been made over. In or about London six stations were established where definite quantities of air were collected and analysed.

*Miscellaneous Exhibits*.—Dr. Masters showed a cone of *Abies Webbiana* imperfectly branched at an early stage of its existence, so that the apex of the cone was two-lobed, and the whole cone more or less twisted on its own axis from the check to growth experienced by the union of the two branches. The same gentleman showed specimens of *Heuchera* sp., in which not only were leaf buds formed at the apex of the leafstalks, but also along the sides of the withered flower stalks. An examination of the vascular cords of the leafstalk showed that whilst throughout the greater part of their length they were three in number, one central and two lateral, at the apex of the stalk they formed a perfect ring as in a true stem.



## NOTES ON SOME OF THE NEWER ROSES.

It has been a very bad season for testing or giving a definite opinion upon any of the newer Roses, as many of our old established favourites failed to show their best characteristics. Even Marie Baumann, generally considered to be one of the most reliable of all H.P.'s, has this year grievously failed to reach its usual standard with me, and any new Rose which has not come up to our expectations ought, therefore, to be allowed at least another season before it is finally condemned.

### HYBRID PERPETUALS.

*Augustine Guinoisseau* (Guinoisseau, 1889) is fairly spoken of as a white La France. It is not quite white, but sufficiently so to prevent its giving the La France impression at first view. In this it differs much from the two other new forms of La France—Duchess of Albany (W. Paul, 1888) and Duchess of Leeds (Mack, 1888). These are both darker than the type, and cannot, I think, be considered improvements upon it, for those who grow La France for show know that the lovely silvery sparkle of a perfect specimen constitutes its chief charm. One would recognise at once the two darker forms as being related to the type, but less bright, and Duchess of Leeds is also a weaker grower. Augustine Guinoisseau will certainly not supersede the original, as we have many nearly white Roses, but only one La France; in every other respect, however, it has the good qualities of the type, and seems well worthy of culture.

*Edouard Hervé* (E. Verdier, 1884) is not a new Rose, but I mention it here because, though it is well spoken of by those who know it well, it will not do at all with me. The eight or ten plants I have grown capitally, but the blooms are about as poor "as they make 'em," and I will have no more of it.

*Germaine Caillot* (Pernet, 1887) is a Rose of which I have a high opinion. It cannot be called free flowering, as it is a thoroughly dwarf grower, but with robust and stout stems. The petals have a lovely sheen in fine weather, but it is a hopeless sort in such seasons as the past one. It does not like being covered over, and will not stand rain, so 1891 had to do without it. I quite expect to see it shown finely when (if ever) a dry Rose season at last arrives.

*Gloire de Lyonnaise* (Guillot, 1884) is a Rose which was going to be a yellow H.P. After a year or two we heard a bad account of it, and when I had two or three plants I put them in an out-of-the-way place, with no manure and little care. Here, however, they have made better plants, and given finer and better flowers, every year. I have had one or two lovely blooms, quite fit for show if they would "stand," which they



will not do at present. The colour has been a bright paper-white with me, but I saw a half-opened bud at Mr. Frank Cant's, which was decidedly of a pale yellow. It seems to me to be an improving sort.

*Gustave Piganeau* (Pernet & Ducher, 1889) is a Rose which, having been finely shown, has been much talked of, and probably largely propagated this year. For a very full-sized flower it has a better shape than Ulrich Brunner, and a large majority of the blooms seem to come uniformly good. I see it is marked "very vig." in one of the best catalogues, but my two or three plants (maiden) have been of quite moderate growth, and have made but little wood. Undoubtedly a very fine Rose, and one of the best of its year.

*James Brownlow* (A. Dickson, 1889).—A stout, but by no means a free grower with me, that must, I fear, be reckoned as one of the few failures of the Irish firm which has given us so many excellent novelties. It seems a fresh shade of colour, but the few flowers I have had have been coarse and ill-shaped, and "one more chance because of the bad season" is all I can say for it.

*Jeannie Dickson* (A. Dickson, 1890) is of a very different type indeed. As is a handsome lady to a rough coalheaver, so is Jeannie Dickson to James Brownlow. The very leaves seem to speak of refinement, and the blooms are first-class in every way, though possibly wanting in stoutness of centre in hot weather. A fine autumnal, for I cut a lovely specimen on October 5th, and as I survey my budded stocks my sole source of dissatisfaction is that I have not propagated more of this charming variety.

*Lady Arthur Hill* (A. Dickson, 1889) is a fine handsome grower with grand foliage. I have found the blooms a little disappointing, being generally smaller than one would expect from the growth and foliage. This has perhaps something to do with my treatment, for Beauty of Waltham, the seed parent, either does not do justice to me, or I do not to it; at any rate, the result is seldom satisfactory. There is, nevertheless, decided quality in Lady Arthur Hill, the petals being smooth and of stout substance, and the blooms having capital staying powers.

*Lady Helen Stewart* (A. Dickson, 1887) is another Irish Rose of which somewhat the same may be said. It is a good grower, but not so stiff and strong or fine in foliage as Lady Arthur Hill; much darker in colour, and again hardly up to first-class form in size. The blooms of both these Roses are rather inclined to be flat—i.e., they have not the long petals and high centre of Jeannie Dickson.

*Madame Henri Perreire* (Vilin, 1886).—This Rose has been well shown, and I believe it to be good. My plants bloomed at a time when every Rose was much below par, and in an ordinary season I should have been disappointed with it. It is of rather a common colour, but seems sufficiently distinct.

*Madame Joseph Desbois* (Guillot, 1886).—Th's being a white Rose, easily damaged by rain, was quite spoiled this year with me. The petals are fine, though sensitive, and the blooms are of very large size, but rather loose and deficient in staying qualities.

*Mlle. de la Seigliere* (Maindron, 1886).—A very fine grower with me, but the flowers are not of first-class shape, being somewhat of the cupped form. It is a little like Madame Eugène Verdier outside, and that class of Rose will often do injury to a refined stand.

*Marchioness of Dufferin* (A. Dickson, 1891).—I did not see this Rose as shown at Hereford, but I saw those at the Crystal Palace, and I have two plants, one of which has bloomed. Here, again, the perfection of shape seems to be the lacking quality, the "globular form" being carried rather to an extreme in the specimens I have seen. The blooms are of ample size, and the growth seems good, but I fear there is some tendency to mildew.

*Margaret Dickson* (A. Dickson, 1891).—I have seen no blooms of this but those which have appeared in public, but I hope that we shall be able to retain the very high opinion that was generally formed of it last year. It was stated in the last issue of "The Rosarian's Year Book" that the foliage of this Rose, being stout and almost leathery in character, will be certainly a strong resister of mildew. The argument seemed a strange one. I do not think we know anything of mildew that will warrant such a conclusion; on the contrary, the stoutest foliaged Rose we have, Her Majesty, is notoriously the most liable, while Général Jacqueminot and its allies, which have quite thin leaves, enjoy almost as much immunity as any. As a matter of fact, Margaret Dickson is, I fear, decidedly susceptible to mildew. The plants I have have suffered from it, and some strong run-out shoots from budded stocks have been badly attacked. Nevertheless, I quite hope and believe that this Rose will be decidedly our best white H.P.

*Monsieur Trievoz* (Schwartz, 1888).—This is a Rose of good growth and fine foliage, very much like Comtesse d'Oxford. There may be a sufficient variation in colour to mark it as distinct, but I unfortunately missed seeing at their best the two or three good blooms I had.

*Mrs. Paul* (G. Paul & Son, 1891).—I am sorry not to be able to report on this Rose. That it is a grand grower, and a flower unique in its way, may be taken for granted. I have some grown-out shoots which are untouched by mildew.

*Salamander* (W. Paul & Son, 1891).—I was disappointed at seeing no specimens of this Rose at the Crystal Palace this year. I hope it will prove worthy of its name, and able to stand the fire of a hot season.

*Silver Queen* (W. Paul, 1887).—This is much like Queen of Queens to a casual observer, and a good season is required for a better comparison.

*Souvenir de Rosieriste Gonod* (Ducher, 1889).—There is no doubt

whatever as to the power of growth possessed by this Rose. Two great rows of maidens at Mr. B. R. Cant's were a sight for their luxuriance, and a wonder in that they had no sign of a bloom. A large majority of his cutbacks had also failed to flower. It appears to be a capital Rose when you get it, but not celebrated at present for freedom of flowering.

*T. W. Girdlestone* (A. Dickson, 1890).—This will, I hope, be better as a cutback. The growth and foliage are good, and the buds large, but all my blooms were coarse and of poor shape. One promised well, but the rain spoiled it. It is the sort of Rose which is likely to do better as a cutback.—W. R. RAILLEM.

(To be continued.)

## POTATOES.

A NOTE of mine on this subject in your columns last spring caused Messrs. Daniels of Norwich to send me several varieties of Potatoes for trial with the view of testing their adaptability for culture in Ireland. I grew them side by side, giving no special treatment other than that given to older kinds. Our soil is sandy with a decidedly moory tendency. The district is mountainy. Needless to add, I did not taste all in one day, but had them day by day, jotting down my opinion of them as soon as the ceremony was completed. I flatter myself that the cook's abilities are beyond question, and on that score they suffered no injustice.

**DREADNOUGHT.**—A singularly handsome disease-resisting Potato, a good cropper, but as an eating Potato the quality was only second rate; must try it another year.

**KING KIDNEY.**—This proved a fair cropping variety with large tubers, very floury, and of excellent flavour when cooked. A few had hollow centres; a good disease-resisting Potato, admirably suited for culture in Ireland.

**REMARKABLE.**—Certainly a remarkable cropping variety with large and handsome tubers, well adapted for exhibition, and a splendid eating Potato. This kind cannot be too strongly recommended for culture in Ireland, being the very thing for the peasant's "haggard."

**UNIVERSAL.**—An enormous cropper, and a good disease-resister, but does not cook well; I cannot, therefore, advise anyone to plant it extensively. I shall, however, give it another trial.

**THE DANIELS.**—This variety, the result of a cross between Magnum Bonum and White Elephant, gave me an agreeable surprise, as neither of these varieties is of any use here either as disease-resisters or for eating purposes. Their "bairn," however, turned out like them in being an enormous cropper with large tubers of even size and handsome form and not a trace of disease; of first rate quality when cooked, being very floury, first rate exhibition Potato.

**DANIELS' TABLE KING.**—So far I must pronounce this variety the best of all. It is the most floury Potato I have seen in Ireland, and what is of equal importance it is of first rate flavour, very prolific, in size and shape a gem for the exhibition table, while not a diseased tuber was found when lifting them.

**THE BRUCE.**—This is another most excellent all-round Potato that everyone should grow. I hear excellent accounts from gardens in which the staple soil is clay.

**GOLDEN FLOURBALL.**—I must give this variety another trial, although its behaviour this year offers no great inducement to do so. It was a very light cropper, the tubers are very unshapely, but when cooked of excellent quality; no sign of disease among them. At present, however, I would not recommend anyone to grow it unless they have abundance of spare land. This is not a very good year for Potatoes, for although the crop is generally a heavy one the quality in many cases is very indifferent when cooked. Disease is as usual very prevalent among the staple varieties; it is therefore very satisfactory to find the kinds under notice so free of disease. Among the whole of them I do not think we have had a dozen diseased tubers.—R. WELLER, *Glenstal Gardens, Limerick.*

## THE PROPOSED NATIONAL AND INTERNATIONAL FRUIT SHOW IN LONDON, 1892.

A MEETING of horticulturists was held in the Cannon Street Hotel on Friday, October 30th last, at 3 P.M., Sir James Whitehead, Bart., in the chair, to consider the desirability of holding a National and International Fruit Show in London in 1892. There was a good attendance, the following being present—Mr. A. H. Smea, Carshalton; Mr. H. R. Williams of the Fruiterers' Company; Dr. M. T. Masters, Mr. John Wright; Mr. John Laing, Forest Hill; Mr. George Gordon; Mr. G. Bunyard, Maidstone; Mr. J. Douglas, Ilford; Mr. J. Cheal, Crawley; Mr. W. G. Head, Crystal Palace; Mr. H. Cutbush, Highgate; Mr. F. Sander, St. Alban's; Mr. Elphinstone, Shipley Hall Gardens, Derby; Mr. G. Reynolds, Gunnersbury Park Gardens; Mr. J. Hudson, Gunnersbury House Gardens; Mr. Cuthbertson, Rothesay; Mr. B. Wynne, Mr. H. Herbst, Mr. R. Dean, Mr. A. Dean, and Mr. Lewis Castle of the British Fruit Growers' Association, with several others specially interested in the subject who had been attracted to the meeting by the advertisements in the gardening papers.

The following report of the proceedings appears in the *City Press* for October 31st.

Sir James Whitehead, in addressing the meeting, said he had asked those present to meet him in order that they might discuss a very important subject. There would doubtless have been many more present that afternoon if it had not been for other engagements—he alluded particularly to the several friends who were visiting Mr. Haywood in



Surrey. He was, however, placed in a somewhat invidious position, because that meeting was not convened entirely on his own suggestion, but on the suggestion of a large number of horticulturists in various parts of the kingdom, but he felt that he could not do otherwise than call those together who were more interested than himself in fruit culture, which was saying a great deal. (Hear, hear.) They were probably aware that there was an opinion abroad that much was yet to be done in fruit culture, and the schoolmaster was abroad also, for the public were being educated to a great extent through the instrumentality of the united societies, which had done a great deal for the national welfare and the national prosperity. (Hear, hear.) He felt they might now take opportunity by the hand by promoting a national and international exhibition, and if it was the wish of that meeting that this should be done it could be arranged on probably the largest scale ever attempted in this country. (Hear, hear.) The Exhibition which was held in Edinburgh the other day was a very considerable success, but if the meeting decided that there should be a large exhibition held in London that exhibition, he ventured to say, would be an enormous success, and would probably surpass those which had been held before in this or any other part of the world. If the meeting decided upon promoting this exhibition they must commence at once, so that due notice should be given to the growers at home and those who were living in the colonies. It appeared to him desirable that a fresh face should be placed upon the exhibition, compared with the exhibitions which had been held in this country on previous years. In this matter he hoped every association would join hands, that there would be no jealousies whatever; it should not be connected with any particular association, and he hoped the work might be considered good enough for every man, whether he held a high position or a low one in the scale of horticultural science, to join in this cause. (Hear, hear.) As to a site for the proposed exhibition, there were several places where it could be held, such as the Crystal Palace or the grounds of the Royal Horticultural Society; but he was inclined to believe that if they wished to make it a great success it should be held in the heart of London, where railway lines converged, and where anyone residing in London or the suburbs could visit it without difficulty. (Hear, hear.) He knew there was a site on the Thames Embankment belonging to the Corporation, and assuming that the Corporation had not let that site for building purposes, or disposed of it in the interval between the present time and October, he had no hesitation in saying that, as a loyal body, and having shown a disposition to assist in the cultivation of fruit, the Corporation would assist them as far as they could. (Hear, hear.) He had taken one step with a view of sounding those in authority on the matter, and he spoke with some knowledge when he said if a proper application was made at the proper time there would not be much difficulty in securing this site without any cost or charge whatever. But it was necessary that a guarantee fund should be started, not that he expected any deficiency, but they must provide for any such emergency, and he thought he would be able to obtain very considerable guarantees from those who occupied the highest positions in the country. He would himself give a guarantee of £500. (Applause.) As to what should be done with the surplus, if there should be any, it was not a subject the meeting could discuss at the present time, but there were societies which were doing good work in fruit culture, and there were two charities more especially connected with the horticultural community, and therefore in the future it might be considered how far those societies had claims upon them. He did not desire in the slightest degree to occupy any position of prominence with respect to the proposed Exhibition, if it was felt by those present that other steps should be taken, and that someone else should be put forward—"No, no"—as President or Chairman of Committee. He could assure them that he would be willing to take a humble part in the efforts which would be made in bringing about a successful result. He hoped also that all present would pull together heartily, with a desire to promote an exhibition which would be worthy of their united efforts. Sir James then read several letters expressing regret at inability to attend the meeting, one being from the Rev. W. Wilks, the Secretary of the Royal Horticultural Society, who explained that the subject of the advisability of holding a Fruit Show on a large scale in London next year had been discussed by his Council, and the possibility of being able to hold this Exhibition on a vacant site on the Thames Embankment. Letters were also read from Dr. Hogg and Mr. Bruce Findlay, Secretary of the Royal Botanical Gardens, Manchester, promising to give their cordial assistance to the movement. Referring to the letter of Mr. Wilks, Sir James said he had no idea that the Royal Horticultural Society intended moving in this matter, and with regard to the site on the Embankment he had reason to believe that no application had been made to the Corporation by the Society. Whatever was done they should not oppose that Society, because he wished its members to join them in the movement. He had put down a few points which he thought might be considered by the meeting, and these were that the title of the Exhibition should be the National and International Fruit Exhibition; that it should take place in October, and that it should be kept open for nine or ten days, and that the arrangements for carrying out the same should be on the broadest basis—(Hear, hear), and that the Royal Horticultural Society, the Fruiterers' Company, the Royal Agricultural Society, the Gardeners' Company, the British Fruit Growers' Association, and all provincial horticultural societies should be called upon to assist.

A somewhat lengthy discussion ensued, in which various details connected with the proposed Exhibition were discussed. One or two

gentlemen took exception to the title of International, contending that the exhibits should be confined to British home-grown fruits, although they admitted that it was only in a very small way in which foreign-grown fruit took the lead, and that that fact was owing to a better climate abroad.

Mr. Smee then moved the following resolution: "That in the opinion of this meeting it is desirable to take advantage of the prevailing enthusiasm in the cause of fruit culture in order to promote a National and International Exhibition in London next year, and that efforts should be made to combine with it popular lectures and demonstrations for the practical education of the people in profitable fruit culture." This resolution, which was adopted, was seconded by Mr. J. Wright, and supported by Mr. H. R. Williams, Mr. Cheal, Mr. Bunyard, Mr. Herbst, Mr. Cuthbertson, and others. Mr. Williams, in the course of his remarks, referred to the success which had attended fruit culture at Highgate and Hornsey, and strongly condemned any attempt to exclude foreign products, because he felt sure the public would be well able to judge of the superiority of English grown fruit when placed side by side with that imported by the foreigner. (Applause.)

Sir James Whitehead concurred with these remarks.

Mr. Douglas said he had been asked to move the following resolution from the Royal Horticultural Society: "That the Royal Horticultural Society are ready to cordially co-operate in holding a Great National Fruit Show in 1892 on the understanding that the horticultural arrangements of the Show should be left to the Society, whose members comprised nearly all the fruit experts in the United Kingdom."

Sir James Whitehead, however, thought that societies should sink their individuality in this movement. Referring to statistics on English fruit culture, Sir James said he was pleased to see that there had been an increase during the past twelve months in the extent of fruit culture of 13,600 acres, and during the past three years the total increase had been 27,000 acres. (Applause.)

It was afterwards moved by Mr. Laing, and seconded by Mr. Wynne, and resolved that a provisional committee should be appointed to formulate a scheme for carrying out the object of the foregoing resolution, and report thereon at a future meeting. And it was further resolved that the Royal Horticultural Society, the Fruiterers' Company, the Royal Agricultural Society, the British Fruit Growers' Association, the Gardeners' Company, and the other horticultural societies should be asked to co-operate in the movement. One member from each of the above-mentioned societies, and a member of the Corporation and six other gentlemen, will constitute the provisional committee, with Sir James Whitehead as the Chairman.

On the motion of Mr. Williams, seconded by Mr. Crute, a hearty vote of thanks was accorded to the Chairman for presiding.

It was stated before the meeting had dissolved that nearly £1000 was already promised for the Guarantee Fund.

## CHRYSANTHEMUM SHOWS.

HAVANT.—OCT. 29TH AND 30TH.

THE eighth annual autumn Exhibition was held as usual in the Town Hall, and was the most successful yet seen in this town. It would be difficult indeed to find in another town such grand cut blooms as was exhibited here from so small a district, but much encouragement is given to growers in the neighbourhood. The Committee is almost entirely composed of gardeners, ably led by Mr A. Chignell, and right well they do their duty.

Cut blooms demand first notice, owing to their superior quality right through, the competition being exceedingly keen. The premier class was for thirty-six distinct varieties, half to be incurved and the remainder Japanese, and for which a silver cup and a money prize was offered for the best stand, with suitable second, third, and fourth prizes. Although there were but three competitors, the display was remarkably good. Mr. A. Payne, gardener to Mrs. Ernald Smith, The Oaks, Emsworth, was placed first by the superior weight of the incurved blooms in the back row, which were of grand proportions, fresh and neatly staged. The Japanese were good also, though some were rather thin. The names were:—Madame C. Audiguier, Mdle. Laercix, Val d'Andorre, Soleil Levant, Volunteer, Etoile de Lyon, Puritan, Mrs. C. Wheeler, A. H. Neve, Condor, E. Molyneux, Annie Clibran, Sunflower, Madame B. Pigny, Mons. Bernard, Avalanche, W. H. Lincoln, and Stanstead White. Incurved:—Queen of England, Lord Alcester, Jeanne d'Arc, Golden Empress, Lord Wolseley, Empress of India, Mrs. Heales, Violet Tomlin, Miss M. A. Haggas, Prince Alfred (extra fine), Golden Queen of England, Princess of Wales (the best bloom in the stand), Alfred Lyne, Mrs. S. Coleman, Nil Desperandum, Jardin des Plantes, Mr. R. Mudie, and Mrs. Naish. Mr. Agate, Havant, was a capital second, the Japanese being perhaps a trifle better than in the first prize stand. Very fine was Vivian Morel, W. H. Lincoln, A. H. Neve, Sunflower, and Stanstead White. Mr. Fuller, gardener to the Right Honourable J. Matthews, Idsworth House, Havant, was third, having good Japanese also.

Mr. Payne followed up his previous success by securing the leading position for both twelve incurved and the same number of Japanese, distinct, with admirable quality in both sections; the names were Princess of Wales, Lord Alcester, Queen of England, Golden Empress, Prince Alfred, Empress of India, Golden Queen of England, Lord Wolseley, Miss M. A. Haggas, Violet Tomlin, Mrs. Heale, and Mrs. Naish. Japanese—Madame C. Audiguier, Stanstead White, Stanstead Surprise,



Etoile de Lyon, Madame B. Pigny, E. Molyneux, Soleil Levant, Mdle. Lacroix, Annie Clibran, Avalanche, M. Bernard, and Puritan. Mr. Agate followed for second place in the former class; Mr. C. Steptoe, gardener to G. A. Gale, Esq., Horndean, third; and in the latter class Mr. H. J. Parrott, gardener to Mrs. Kincaird Smith, Wood End, took second place; Mr. Agate third.

The Anemone section were well provided for, no less than twenty-four being required in the leading class, and not less than twelve varieties. Mr. Agate was first with large, full centred, highly coloured blooms of Duchess of Westminster (two), Cincinnati (two), M. C. Leboeuz (two), Lady Margaret (two), Miss Margaret (two), Gladys Spaulding (two), E. C. Jukes, Mrs. R. Mudie, Dame Blanche (two), Fabian de Mediana (two), Ruche Toulousaine, Miss A. Lowe, Mrs. Russell, Citrinus (two), and Grand Alvéole. Mr. Steptoe a good second. Mr. Fuller third. Reflexed varieties were well staged by several exhibitors. Mr. Agate had the best—full solid blooms of the leading sorts, Messrs. Steptoe and Parrott following in the order here named. Mr. Agate was the only exhibitor of twelve Pompons—staged three blooms to a spray, and was awarded premier honour, so good were they. Single varieties were extremely well grown and staged by Mr. Agate, this section appearing to create so much interest that we append the names of the first prize stand blooms—Charming, Mrs. D. B. Crane, Effie, Bessie Conway, Oceana, Jenny Lind, Jane, Florence, Miss A. H. Bates, Elegant, and Charming. Mr. Steptoe second. Remarkably fine blooms were staged in the amateurs' division in all the sections, Mr. Horril, Havant, taking the premier awards in most classes.

A class was provided for the most tasteful table decoration of flowers, &c., which created much interest amongst the ladies to whom competition was restricted. With a capital design of lightly arranged suitable flowers, in which single Chrysanthemums and Grasses were the most prominent, Mrs. Conway, Havant, out-distanced her opponents, Mrs. Longcroft and Miss Chignell, who secured awards in the order named.

Groups of Chrysanthemums in pots were staged by three exhibitors, Mr. Fuller taking first place, closely followed by Mr. Roberts, gardener to E. R. Longcroft, Esq., Hill Place, Havant. Mr. Penford, gardener to Sir F. Fitzwigram, Bart., Leigh Park, Havant, had half a dozen specimen plants; not only neatly trained were they but well flowered also, to which a special prize was awarded. For a group of miscellaneous flowering and foliage plants Mr. R. Woodfine, gardener to Captain Boyd, Emsworth House, Emsworth, was first with a choice arrangement of suitable plants; Mr. Fuller second. Table plants were a distinct feature of the Show, so light and richly coloured were they. For six Messrs. Payne and Agate were first and second respectively.

Black Grapes were fairly well shown by Mr. Parrott in the class for two bunches with Gros Colman. Mr. Woodfine second. Apples were strongly represented by large and highly coloured fruit. For six dishes Mr. H. Budd, gardener to R. Sainthill, Esq., Rockbeare, Emsworth; Mr. Marriner, gardener to Colonel Thistlethwaite, Drayton, had the best pairs in six distinct dishes. Mr. Fuller had much the best vegetable in the class for nine varieties.

#### GOSPORT.—OCTOBER 29TH AND 30TH.

A NEAT, well arranged Exhibition of Chrysanthemums and other autumn produce was the fourth held by this Society in the Thorngate Hall. The competition in nearly all classes was keen, the prizes being well contested. Mr. Spencer had all the arrangements well in hand, and everything in readiness for the Judges in good time.

Groups of Chrysanthemums filled one side of the Hall, making a bright display. Mr. F. Davis, gardener to Mrs. Churcher, Gosport, was first with plants carrying medium sized blooms, neatly arranged. Mr. T. H. Watch, 44, Seafield Road, Gosport, second. Mr. G. Hawkins, gardener to E. Saphorne, Esq., Gosport, had the best six specimens, freely flowered and carrying good foliage, not too stiffly trained. Mr. A. Battershall, gardener to A. D. Cave, Esq., Newtown, second. Mr. T. H. Watch won first honours for six Pompons.

Cut blooms were staged in large numbers and of average quality. For twenty-four distinct varieties, twelve of each, incurved and Japanese, there was but one entry, Mr. Hawkins, to whom was awarded the premier prize; the blooms were rather undersized, but clean, fresh, and well staged. In the class for eighteen Japanese, distinct, Mr. Hawkins was first with a most creditable display. Mr. E. Foot, gardener to H. J. C. Martin, Esq., Gosport, second. The first prize for twelve reflexed blooms fell also to Mr. Hawkins for substantial specimens of leading varieties. Mr. H. Lee, Gosport, had the best Anemone blooms in six varieties, with substantial well filled centres, bright in colour; also he had the best Pompons in six bunches. Mr. Hawkins staged a capital collection of single varieties in the class for eight varieties, and took premier award. Bouquets of Chrysanthemums were as usual too stiff and formal to please the most ordinary person in matters of taste.

Apples and Pears made a good display. Mr. G. Hawkins had the best in the former section, followed by Mr. Groom, Stoke Road, but who reversed his position in the latter class, showing large, well coloured fruit of leading varieties. Mrs. Hawkins was the most successful in the vegetable classes, staging good dishes in the collection of nine varieties. Mr. F. Davis second.

#### KENT COUNTY.—NOVEMBER 3RD AND 4TH.

It is pleasing to observe that this Society is in a flourishing condition. The balance sheet from last season shows a balance of £31 to its credit at the bank, the greater part of this being profit on the last exhibition after paying £119 16s. in prizes. As a result of this a liberal

schedule was prepared for the present season, and this produced a most excellent Show in the Rink at Blackheath.

The exhibits were numerous, the competition keen, and the quality good. The blooms, as a rule, were remarkable for freshness and bright colouring, this being due to the early date. From this cause many flowers could be seen throughout all the classes not yet fully developed, especially amongst the Japanese.

The classes round which the most interest centred were first and second in the schedule. Class 1 was for a group of Chrysanthemums arranged for effect in a space not exceeding 50 square feet, and the prizes were £4, £3, £2, and £1. For these five competed, and some good groups were set up, the first prize going to Mr. Payne, gardener to T. Williams, Esq., who had a fine group, high quality of flowers and foliage being combined with excellent arrangement. Second, Mr. J. Rhoden, gardener to J. Vavasseur, Esq. Third, Mr. E. Trollope, gardener to Colonel E. Larking.

Class 2 was for thirty-six blooms, eighteen incurved and eighteen Japanese, distinct, the prizes being £8, £6, £4, and £2. This also brought five competitors, and some especially fine blooms were staged, the first prize being awarded to Mr. J. Doughty, gardener to Mrs. M. Tomlin. The competition between this and the stand from Mr. C. G. Whistle, gardener to — Goschen, Esq., who was awarded second, was very close indeed, only one and a half point dividing them after close scrutiny and careful pointing. The varieties in Mr. Doughty's stand were as follow:—Incurved.—Back row: Lord Wolseley, Lord Alcester, Alfred Salter, Golden Empress, Prince Alfred, and Empress of India. Second row: Miss Haggas, John Doughty, Princess of Wales, Violet Tomlin, Queen of England, and Mrs. Coleman. Front row: Nil Desperandum, Jeanne d'Arc, Lady Hardinge, White Venus, Refulgence, and Princess Beatrice. Japanese.—Back row: E. Molyneux, Avalanche, Stanstead Surprise, W. H. Lincoln, Gloire de Rocher, and Stanstead White. Second row: Maiden's Blush, E. W. Clarke, Boule d'Or, Madame Baco, Vivand Morel, and Mrs. F. Jameson. Front row: Mons. Bernard, Mdle. Lacroix, Madame J. Pigny, G. Daniels, Sarah Owen, and Mrs. Irving Clarke. Especially fine amongst the incurved were Miss Haggas, Violet Tomlin, Lord Wolseley, Golden Empress, and Nil Desperandum. Among the Japanese, E. Molyneux, E. W. Clarke, Sarah Owen, Mrs. Jameson, and Mrs. Irving Clarke. The second prize thirty-six contained in Japanese a grand corner flower (back row) of the new variety Vivand Morel, the finest bloom shown in this class.

The back row incurved in this second prize stand consisted exclusively of varieties of the Queen family, and were all broad petalled, deep, heavy flowers. The third prize in this class was taken by Mr. H. Shoesmith, gardener to M. Hodgson, Esq. Fourth, Mr. Leadbetter, gardener to A. G. Hubbuck, Esq.

In Class 4, twenty-four Japanese varieties, distinct, five competed, and here again the competition was very close, the first prize going to Mr. C. Blick, gardener to M. R. Smith, Esq.; second, C. E. Shea, Esq., The Elms, Foot's Cray; third, Mr. J. Blackburne, gardener to Jno. Scott, jun., Esq. The varieties in the first prize stand were:—Back row: Vivand Morel, Stanstead Surprise, W. H. Lincoln, Madame Maria Hoste, Edwin Molyneux, Etoile de Lyon, Stanstead White, and Mrs. E. W. Clarke. Second row: Mrs. F. Jameson, Avalanche, Madame C. Audiguier, M. Bernard, Sunflower, Alberic Lumsden, Gloire du Rocher, and Comte de Germany. Front row: Mrs. A. H. Neve, Jeanne Délaux, Japonais, Mrs. Irving Clarke, Mrs. J. Laing, Puritan, Louis Boehmer, and Vice-President Darquier. Vivand Morel and Mrs. E. W. Clarke formed two grand corner flowers (back row), and added greatly to the effect of the whole stand.

In the class for twelve incurved seven staged, the first prize going to Mr. E. G. Whittle; the second to Mr. J. Lyne, gardener to H. F. Tiark, Esq.; and the third to Mr. Doughty. With twelve Japanese ten competed. First, Mr. J. Blackburne; second, C. E. Shea, Esq.; third, Mr. J. Doughty. For six blooms of Avalanche eight competed, Mr. J. Blackburne being first with very fine flowers, remarkable alike for large size and extreme purity of colour; Mr. J. Doughty was second; and Mr. E. G. Whittle third. Class 9, six blooms of the Queen family, brought five stands. First, Mr. J. Lyne; second, Mr. E. G. Whittle; third, Mr. H. Shoesmith.

In the various classes for six blooms of one variety there was splendid competition, the quality being remarkably good all through, and forming in the aggregate one of the finest features of the Show. For six yellow Japanese Mr. C. E. Shea was first with Sunflower, Mr. J. Blackburne second with Sunflower, and Mr. Blick third with W. H. Lincoln. For six whites, excluding Avalanche—first, Mr. J. Doughty, with a grand box of Stanstead White; second, Mr. J. Blackburne; and third, Mr. S. B. Wheadon, with the same variety. For six Japanese in one variety, coloured, excluding yellows—first, Mr. C. Blick, with six magnificent flowers of Vivand Morel; second, Mr. J. Blackburne, with Etoile de Lyon; third, Mr. R. Leadbetter, with E. Molyneux. For six incurved, white—first, Mr. E. G. Whittle, with Empress of India. For six incurved, coloured—first, E. G. Whittle, with Blush Queen.

A class was also provided for twelve blooms of the Rundle family, which brought nine competitors, and a most interesting and pleasing display. First, Mr. R. Leadbetter; second, Mr. A. Tomlin; third, Mr. T. Cowdray. Mr. C. Blick was awarded the prize for the premier Japanese bloom in the Show, winning with his grand corner bloom of Vivand Morel. The premier incurved bloom was Mr. E. G. Whittle's Queen of England.

With twenty-four blooms (eight Japanese, eight incurved, and eight reflexed) Mr. R. Leadbetter would have been easily first, but had



unfortunately staged two blooms of Golden Christine, and was thus disqualified. First, Mr. J. Mitchell; second, Mr. A. Tomalin. For twenty-four flowers (twelve incurved and twelve Japanese) H. Fincham, Esq., was well first; G. P. Black, Esq., being second; Mr. R. J. Allen third. With twelve Japanese varieties, distinct—first, Mr. Payne; second, Mr. H. Hazell; third, Mr. E. H. Meggs.

Table plants were a very fine display, excellent in quality throughout. First, Mr. C. Lane, gardener to E. H. Coles, Esq.; second, Mr. H. Hazell, gardener to R. W. Mitchell, Esq.; third, Mr. J. Cooke, gardener to — Park, Esq.

Messrs. J. Laing & Sons (Forest Hill), W. Cutbush & Son, and local florists contributed effectively in furnishing the building with Palms and other plants. The arrangements were excellent, and the conduct of the Show such as could only be effected by able and active officials.

#### BRIGHTON.—NOVEMBER 3RD AND 4TH.

FAVoured by brilliant sunny weather, such as frequently renders "London by the Sea" so delightful a resort when the metropolis is buried in a most depressing gloom, the Brighton and Hove Chrysanthemum Society's ninth annual Exhibition was opened on Tuesday last. The Dome and Corn Exchange near the Royal Pavilion were, as usual, the chosen sites, and whether in number or quality of exhibits, the Show compared most satisfactorily with those previously held. There is always a charming freshness and vitality about these Brighton shows that prove the importance of the town as a horticultural centre, and also testify to the skill of the cultivators in the district. The Society is well managed by practical energetic business men, and the large share of success which has attended their efforts is amply deserved. A Society that can secure 500 entries and an attendance of 10,000 visitors, as was the case last year, is evidently performing appreciated work.

The Corn Exchange is an uncommonly spacious oblong building, and was on this occasion devoted to the groups of Chrysanthemums, the miscellaneous plants, the fruit, and vegetables, with the larger classes of cut blooms. The Dome is a lofty and handsome building adjoining the Corn Exchange, with which it is in direct communication, and has an extremely fine appearance at night when brilliantly illuminated by the electric light. The orchestra was superbly decorated with foliage plants by Messrs. Balchin, tables of cut blooms were arranged round the sides, and behind these are the pyramidal specimen plants with capital effect. The Committee with their Chairman, Mr. Rupert Miller, and the able Secretary, Mr. Mark Longhurst, merit hearty congratulations upon the result of their work and the success achieved.

At the luncheon in the afternoon the customary compliments were paid to the Judges and officers; but advantage was taken of the large gathering of local horticulturists to introduce another more important matter. Special reference was made by several speakers to the foundation of the Brighton and Sussex New Horticultural and Mutual Improvement Society, the schedules of which were distributed on this occasion announcing the first Shows for 1892, to be held on April 5th and 6th, and August 30th and 31st. The Society is under good patronage with a strong Committee, Mr. W. Balchin, jun., as Chairman, Mr. J. Cheal as Vice-Chairman, and Mr. Mark Longhurst as Secretary. It is being well supported, and a successful career is expected. It was explained by Mr. Balchin that the Society was not instituted in any spirit of opposition, but because it was felt that a representative horticultural society was required in the district, and the support accorded and good wishes expressed were so encouraging that they felt assured they were on the right path. Brief speeches to the same effect followed from others, and it was evident that a very enthusiastic feeling prevails with regard to the work the new Society has undertaken.

With regard to the Chrysanthemum Show we can only give a few details this week. The principal class for cut blooms was that for forty-eight, twenty-four incurved, and the same number of Japanese, not less than eighteen varieties or more than two of one sort. In this there was a brisk competition, and six of the eleven entries were very close in merit. Ultimately the premier prize of £10 was awarded to Mr. W. Nevill, gardener to F. W. Flight, Esq., Cornstiles, Winchester, who had an even collection of clean, handsome, well-finished blooms, the incurved not large, but compact and neat, the Japanese excellent, bright and fresh. The varieties were as follows:—*Incurved*.—Miss M. A. Haggas (2), Prince Alfred (2), Mrs. Heale (2), Violet Tomlin (2), Queen of England (2), Mr. Brunlees, White Empress, Golden Queen, Novelty, Princess of Wales (2), Nil Desperandum, Lord Alcester, Jeanne d'Arc, Alfred Lyne, Mrs. C. Coleman, Lord Wolseley, Jardin des Plantes, and Refulgens. *Japanese*.—Stanstead White (2), Mrs. Wheeler, Mdle. Lacroix, E. Molyneux, Album Fimbriatum (2), Sunflower (2), W. W. Coles (2), Sarah Owen, Maiden's Blush, Etoile de Lyon, Avalanche, M. Bernard, W. H. Linden, Alberic Lunden, Bertha Flight, Pink Mdle. Lacroix, Puritan, Boule d'Or, and Stanstead Surprise. A good second was Mr. C. Penford, gardener to Sir F. Fitzwygram, Leigh Park, Havant, who had substantial incurved in his back row, and the blooms altogether were praiseworthy. The third prize went to Mr. M. Russell, gardener to Dr. C. Lewis, Henfield, and the fourth to Mr. Glen, gardener to Mrs. Montefiore, Worth Park, Crawley, all showing well.

For twenty-four Japanese, not less than fifteen varieties or more than two blooms of one sort, Mr. Glen took the lead with substantial bright blooms of the following varieties:—Stanstead White (2), Miss Wheeler, W. H. Lincoln, Sunflower (2), Meg Merrilics, Val d'Andorre, Etoile de Lyon, Mrs. F. Jameson, W. Tricker, M. Bernard, Puritan, Album Fimbriatum, Avalanche (2), Japonais, Madame C. Audiguier,

Baronne de Prailly, Madame B. Pigny, Boule d'Or, Mrs. F. Jameson, E. Molyneux, and Maiden's Blush. The other prizes in this class were secured by Messrs. Phillips (Meopham), Duncan (Warnham Court Gardens), and Standing in the order named. In other smaller classes for cut blooms the entries were numerous, the Japanese, incurved, reflexed, Anemones, and Pompons all being capitally shown, and some of the principal prizewinners were the following:—Mr. T. Glen; Mr. Emery, gardener to G. Megaw, Esq., Avoca; Mr. W. Jupp, gardener to G. Boulton, Esq., Torfield, Eastbourne; Mr. Sayers, gardener to Mrs. Cook, The Hall, Uckfield; Mr. Fowler, gardener to Mrs. Hall, Barrow Hall; Mr. Phillips, gardener to Dr. Baker, The Deodars, Meopham; with Messrs. Russell, Horscroft, Coleman, and Brockway.

The groups and specimen plants occupied considerable space, and were notable either for the tasteful arrangement or the fine quality of the flowers. Fruit—especially Grapes, Apples, and Pears—were excellently represented; vegetables were abundant and good; and miscellaneous plants, with non-competing exhibits, furnished considerable attractions.

#### IPSWICH AND EAST OF ENGLAND.—NOVEMBER 3RD AND 4TH.

THE annual Chrysanthemum Exhibition of this Society took place in the Public Hall, and proved much better than was generally anticipated, some remarkably good groups and fine blooms being staged, and the resources of the building were tested to their utmost to find accommodation.

Groups of Chrysanthemums arranged for effect were a capital feature. The best came from the Rev. H. A. Berners, Harkstead Rectory, Ipswich, whose gardener, Mr. G. Jordan, had fine plants, fresh, well grown and flowered, mainly Japanese; Mr. R. M. Miller, High Wood, Ipswich, was a good second; and two other prizes were awarded. The best collection shown by persons residing in the borough whose rental does not exceed a certain sum per annum, came from Mr. W. Rush, 16, Newson Street, Ipswich, the plants capitally grown and bloomed; Mr. George James, Tower Street, Ipswich, was second. The best collection of twenty plants came from Mr. H. Pooley, gardener to E. R. Turner, Clare Lodge, Norwich. All plants with three or four to seven and eight shoots, well grown and bloomed. Mr. J. G. Marshall, gardener to J. D. Cobbold, Esq., Holy Wells, Ipswich, was second, also with very good plants. Trained plants were somewhat poor, and in the class for four the first prize was withheld. The best single specimen was a plant of Mdle. Lacroix from Mr. Chenery, gardener to J. Limner, Esq., Constitution Hill, Ipswich; Mr. A. Somes, gardener to Major Howey, Woodbridge, was second.

Groups of plants arranged for effect made a pleasing feature. The best came from Mr. Somes, which contained some well bloomed plants of one of the winter flowering Salvias, a fine spike of Vanda cœrulea and other flowering plants, with charming Ferns, Crotons, &c. Mr. W. Beer, 31, Spring Road, Ipswich, was second, and Mr. J. G. Marshall third. Other plants included table plants, Chinese Primulas, and specimen Palms and foliage plants. Among the latter, and awarded the first prize, was a fine plant of Phormium tenax variegata.

The leading class for cut flowers was for twenty-four blooms, twelve incurved and twelve Japanese. Mr. W. H. Lees, gardener to the Duchess of Montrose, Sefton Lodge, Newmarket, was first with a fine exhibit, his incurved blooms being characterised by remarkably high finish. He had Miss M. A. Haggas, Lord Wolseley, John Lambert, Queen of England, Lord Alcester, John Doughty, Mrs. Coleman, Prince Alfred, Princess of Wales, Violet Tomlin, Mrs. Heale, and Jeanne d'Arc. Of Japanese he had very fine examples of Stanstead White, Sunflower, Condor, Mad. C. Audiguier, Avalanche, Gloire de Rocher, Gloriscum, William Lane, Etoile de Lyon, Mons. Bernard, Edwin Molyneux, &c. Second, Messrs. Saltmarsh & Sons, nurserymen, Chelmsford, with good varieties, in the main similar to those staged by Mr. Lees. Mr. Lees also took the first prize with twelve incurved blooms, very good indeed, and generally similar to those named above. Mr. W. Dance, gardener to Mrs. Lowe, Gosfield Hall, Halstead, was second. Mr. Dance had the best twelve Japs, having fresh, well coloured, and massive blooms of Vivian Morel, Sarah Owen, Etoile de Lyon, Boule d'Or, Puritan, Florence Davis, Mad. Baco, Stanstead Surprise, Gorgeous, Japonais, and Mad. J. Laing, &c. Second, Mr. A. Bishop, gardener to R. Burrell, Esq., Witley Hall, Bury St. Edmunds. In the amateurs' class for twenty-four blooms, twelve incurved and twelve Japanese, Mr. Dance was first again with fine incurved—Mrs. M. A. Haggas, J. Doughty, Emily Dale, Improved Golden Queen of England, Violet Tomlin, Princess of Wales, Mr. W. Coleman, and Mrs. Heale; and such fine Japanese as Criterion, Etoile de Lyon, Gorgeous, Vivian Morel, Boule d'Or, Avalanche and Sunflower. Second, Mr. Jordan, gardener to the Rev. H. A. Berners, with some capital blooms. Mr. Lees had the best twelve Japanese shown by amateurs, the flowers unnamed. Second, Mr. Boyles, gardener to R. B. Cabbell, Esq., Cromer Hall.

A silver cup, value 5 guineas, was offered by Mr. William Colchester for twenty-four blooms of Japanese, fed or grown with pure ichthemio guano. This brought a very fine stand of blooms from Mr. Dance of large size and well coloured, the varieties being Condor, Edwin Molyneux, Etoile de Lyon, Ralph Brocklebank, Baronne de Prailly, Mrs. Falconer Jameson, Madame J. Laing, Sarah Owen, Mdle. Lacroix, Comte de Germiny, Mrs. J. Wright, Mrs. E. W. Clarke, Louis Boehmer, Thunberg, Fair Maid of Guernsey, Val d'Andorre, Sunflower and Elaine. Second and third prizes were awarded in this class, though only the cup was offered by Mr. Colchester. There were also classes for amateurs not competing in the foregoing, in which some very good blooms were staged, but time did not admit of gathering up particulars.



A very good display of fruit indeed was staged. The best six dishes came from Mr. H. Rogers, gardener to Lord Rendlesham, Rendlesham Hall, who had excellent Alicante and Muscat of Alexandria Grapes, Coe's Golden Drop Plums, Doyenné du Comice Pears, King of Pippins Apples, and Melon. Second, Mr. J. Sheppard, The Gardens, Wolverstone Park, with a very close collection, but a little weak in Grapes. He had Golden Queen and Alicante Grapes, very fine; Coe's Golden Drop Plums, Louise Bonne of Jersey Pears, Cox's Orange Pippin Apples, and Melon. Mr. F. Cresswell, gardener to Geo. Charters, Stoke Park, had the best three bunches of Alicante. Mr. Sheppard was second with any other black, staging fine Gros Colman. Mr. Jordan was second with Gros Maroc. Mr. Lees was the only exhibitor of three bunches of Muscat of Alexandria; and Mr. Sheppard was first with any other white, having well finished Golden Queen.

Apples, both dessert and culinary, were numerous and very fine, and the same can be said of Pears. Vegetables were a great feature, being of the highest quality. A good collection of Apples and Pears was staged by Messrs. Daniels Bros., nurserymen, Norwich. The Ipswich Chrysanthemum Show always attracts a great company, and the Hall was completely crowded as soon as the Exhibition was opened to the public.

#### WATFORD.—NOVEMBER 3RD AND 4TH.

THE sixth annual Exhibition of the above Society was held in the Agricultural Hall of this town on Tuesday and Wednesday last, and proved in every way an unqualified success. The great improvement in the quality of the exhibits during the past year or two has been most noticeable, especially in the cut bloom classes, the exhibits of Mr. Beckett having acted as a great stimulus to others. On this occasion the cut flowers were better generally than ever seen at Watford, although there was a slight falling off in the groups.

In the open class for twenty-four Japanese Mr. Beckett, gardener to H. H. Gibbs, Esq., Aldenham Park, Elstree, was a good first with a remarkable stand of blooms, consisting of the following:—Viviand Morel (very fine), E. Molyneux, Boule d'Or, Etoile de Lyon, Gloire de Rocher (good), Baronne de Prailly, W. H. Lincoln, Stanstead White, Coronet, M. Bernard, Mrs. E. Beckett (new white), Mrs. F. Jameson, Beauty of Castlewood, Edwin Beckett (yellow, good), Louis Boehmer, Carew Underwood, Miss Neve, Mr. Freeman, Val d'Andorre, Madame Audiguier, Roi des Japonais, Avalanche, F. A. Davis, and Puritan. Mr. Cox, gardener to J. Trotter, Esq., Brickenden Grange, Hertford, was a good second. Third, Mr. Sturman, Queen's Road, Watford, a most enthusiastic amateur grower.

Five competitors entered for twenty-four incurved blooms, Mr. Cox just beating Mr. Beckett by a few points. His blooms were Queen of England, Lord Alcester, John Doughty, Lord Wolseley, John Lambert, Alfred Salter, Golden Empress of India, Jeanne d'Arc, Madame Darrier, Princess of Wales, R. Cannell, Miss Haggas, Violet Tomlin, Nil Desperandum, Mrs. Heale, Mrs. Coleman, Venus, Camille Flammarion, Queen of the Isles, Prince Alfred, Mr. Brunlees, Princess Beatrice, and Refulgens. Mr. Beckett had especially good blooms of Lord Alcester, John Lambert, M. R. Bahuant, and Madame Darrier. Mr. Neve, gardener to C. Van Raalte, Esq., Aldenham Abbey, Watford, third. Mr. Beckett, was successful with similar numbers, members only, first, with a very fine stand. Second, Neve.

The competition was very strong in the class for twelve Japanese, ten lots competing, all being good, C. E. Shea, Esq., Footsray, Kent, coming first with M. Bernard, Stanstead White, Boule d'Or, Viviand Morel, E. Molyneux, Ralph Brocklebank, M. Marrouh, Meg Merrilies, Sarah Owen, Puritan, Sunflower, and Madame J. Laing. Second, Mr. Neve. Third, Mr. T. Lansley.

With six Japanese, one variety, Mr. Beckett came in first with wonderful flowers of Viviand Morel. Second, Mr. Dinsmore, gardener to T. F. Blackwell, Esq., Harrow, with Etoile de Lyon. For a similar number white, Mr. Neve first; second, Mr. Debnam, gardener to A. Pears, Esq., Isleworth; third, Mr. Sturman; all with Avalanche. Some fine flowers were staged, incurved, of one variety, Mr. Neve first with six grand Miss M. A. Haggas; Mr. Cox second with Violet Tomlin. Mr. Turk, gardener to P. Bosanquet, Esq., Berkhamstead, gained first honours for twelve incurved, followed by Mr. Lansley. Mr. Beckett was awarded the prize for the best Japanese bloom in the Show for a magnificent flower of Viviand Morel, and for the best incurved bloom Mr. Brown, gardener to R. Henty, Esq., obtained the award for a very fine Empress of India. In numbers of other classes the competition was very keen, and the blooms generally of good quality, especially the Japanese.

Groups are not quite so numerous as last year. In the open class, to occupy a space of not less than 50 square feet, Mr. Ashdown, gardener to C. R. Humbert, Esq., Dell Field, Watford, is first with a nicely arranged group of good quality. Second, Mr. Tidy, gardener to W. K. D'Arcy, Esq., Stanmore Hall, Stanmore. For a group of similar size, restricted to members only, first Mr. Wilks, gardener to Mrs. Robins, Watford. Second, Mr. Brown, gardener to Lord Esher, Heath Farm, Watford.

Fruit and vegetables are shown in great abundance, especially the latter, and of excellent quality. For twelve varieties of vegetables Mr. Beckett takes the leading position in a very strong competition, this exhibit being so good that it was unanimously awarded the silver medal offered for the best exhibit in the Show. The same exhibitor also was again first for a collection of fruit, having grand black and white Grapes and Pine.

Not for competition.—Several groups were contributed, that from

Mr. Myers, gardener to Lord Clarendon, deserving of special mention, beautiful dwarf Chrysanthemums with Palms and other foliage and flowering plants, altogether a magnificent group. Mr. Darby, nurseryman, Watford, also contributed an extensive collection of both plants and cut flowers. Messrs. Cutbush, Laing & Sons, and several others also sent plants and flowers.

#### FINCHLEY.—NOV. 3RD AND 4TH.

ONE of the most attractive of the shows in the neighbourhood of London is undoubtedly that of the Finchley Chrysanthemum Society. Woodside Hall, North Finchley, in which it is held, is a lofty and well-lighted building, and the method of arrangement is as near perfection as is usually seen. Mr. Linfield and Mr. Bevan, two of the responsible officials, are to be congratulated on it.

The present year's Show was well in advance of its predecessors, both in point of quantity and quality. The chief class for cut blooms was that for thirty-six, eighteen Japanese and eighteen incurved, the first prize being a challenge trophy, to be won twice before becoming the property of the holder. There was a very close fight between Mr. W. J. Burch, gardener to J. Smith, Esq., Mill Hill, and last year's winner, Mr. Gray, gardener to W. B. Brand, Esq., Finchley, but a slight advantage with incurved, combined with better arrangement, gave Mr. Burch the victory. His Prince Alfred, Princess of Wales, Miss Violet Tomlin, and Alfred Salter were excellent blooms. Mr. Gray's Japanese were rather the better, his Edwin Molyneux, Avalanche, and Mons. Bernard being very good. Mr. Walker, gardener to C. Marshall, Esq., was third. Mr. H. A. Page, gardener to F. Crisp, Esq., won with twenty-four, an excellent stand, Messrs. Walker and Rutson, gardeners to H. Newman, Esq., being second and third. The prizes in this class were presented by the President, H. Hamilton, Esq., Messrs. Walker, Page, Gray, W. J. Burch, and D. M. Hayler, gardener to W. Hannaford, Esq., showed incurved and Japanese well in other classes. Mr. Burch had a delightful box of Elaine in the one variety class, and Mr. Gray received the N.C.S. medal for a beautiful half dozen of Avalanche. Mr. Walker, Mr. W. Green, gardener to Miss Wyburn, and Mr. Page showed large Anemones admirably, and in another class Mr. Green had a charming six of Lady Margaret. Mr. Page won with twelve Reflexed, a very good stand.

Mr. Eason, gardener to B. Noakes, Esq., won very easily with three specimens, the varieties being Bouquet Fait, Florence Percy, and Peter the Great, all fine plants splendidly flowered. He won in the single specimen class with a grand plant of Margot. Mr. Billington, gardener to E. Homan, Esq., and Mr. T. Carter, gardener to C. H. Clayton, Esq., had some good plants in other classes. Mr. Carter won with a group, his plants being very well arranged, healthy and finely flowered. Mr. Kine, gardener to Abbott Smith, Esq., was second, and Mr. Hayler, third, an extra prize going to Mr. Sandford, gardener to G. W. Wright, Esq. Messrs. W. Cutbush & Son, and Messrs. B. S. Williams & Son contributed attractive miscellaneous groups not for competition. Messrs. Cutbush's special prizes were won by Messrs. Walker, Rutson and Hayler, and those of W. White'ey, Esq., by Messrs. Hayler, Cook, gardener to J. B. Yute, Esq., and Billington.



#### FRUIT FORCING.

**PINES.**—At this time of year young plants are apt to become drawn and weak through the moisture so prevalent in our climate during the autumn months. As growth advances in young plants they should be placed so as to obtain all the light possible, the growth then is sturdy and well solidified. To effect that the plants must be placed near the glass and should be kept clean. Owing to decomposition the beds of fermenting materials subside considerably; fresh made beds of leaves, even when well trodden down, are apt to settle rapidly. Tan does not sink to anything like the same extent, but in either case attention must be promptly given to raising the plants so that they may have the full benefit of the light, and in doing this take care not to chill the plants or allow them to become overheated at the roots. This is important, for chilled plants start into fruit prematurely, and those burned at the roots become sickly. More injury arises from the plants being shifted about than many are aware. Prepare new beds when necessary, and the best plan, where the extent of glass admits of it, is to free all the pits of the plants, and not return them until the plants are in proper condition. Tan is much the best fermenting material for affording bottom heat to Pines; Oak and Beech leaves are more durable, and the heat from them is milder and lasts longer than any other.

**Arranging the Plants.**—It is a good practice to assist the plants at this time of year according to their respective requirements for the winter. Fruiting plants need the best places for swelling off their fruits properly at a time when natural means will not afford much assistance. The fruiting plants must have a night temperature of 65°, and 70° to 75° by artificial means during the daytime, losing no opportunity of admitting air at 80°, closing at that temperature. Successional plants require a



night temperature of 60°, and 65° by day artificially, advancing from sun heat to 75° or more, but air must be admitted between 70° and 75°. Suckers or stock not in fruiting pots must not be brought forward too rapidly, as they are not prepared to make growth until well rooted and have formed a sturdy base. They will progress satisfactorily in a night temperature of 55° to 60°, and 60° to 65° in the daytime, but avoid chills or anything likely to cause a stunted growth. As regards moisture, fruiting plants require a genial atmosphere at all times, therefore sprinkling available surfaces must be regularly attended to, and the plants will need syringing in a light house during bright weather two or three times a week. Succession plants will only require syringing occasionally, as they will derive essential moisture from the fermenting beds. Suckers will have sufficient moisture in moist pits with recourse to syringing.

**CUCUMBERS.**—Plants that have been in bearing some time can be invigorated by a top-dressing of turfy loam, to which has been added a little superphosphate and about a sixth of charcoal broken up small, surfacing with an inch depth of horse manure. This must not be used fresh or the foliage may be injured by the ammonia. Afford copious supplies of water, but let the soil be getting dry before any is given, then give enough to moisten the bed through, using it at the same temperature as the house. Thin the old exhausted growths and lay in young, by which means the plants will continue fruiting some time longer. The autumn fruiters are now in full bearing, and must not be overcropped, therefore remove the fruit as soon as it attains a fair size, and all deformed fruit when observed. Examine the plants at least once a week for the removal of bad leaves, stopping or cutting away surplus growths, keeping the foliage fairly thin, yet an even spread on the trellis.

Winter fruiters should be allowed advance well up the trellis before stopping them, training the side growths evenly, and not more closely than to allow of the foliage being exposed to light. Stop at a few joints of growth, or one or two joints beyond the show of fruit; but if the plants are weak allow more extension, and crop lightly at first. Remove all or most male flowers, and do not allow tendrils, but remove them as fast as they appear. Keep the bed replenished with soil, adding fresh and warmed as often as the roots appear at the sides of the ridges or killocks.

Maintain a night temperature of 70°, a few degrees less in severe weather, 70° to 75° by day artificially, advancing to 80° and 90° with sun heat. Admit a little air at the top of the house whenever the weather is favourable, affording it, however, without lowering the temperature, it being better to allow the temperature to rise a few degrees over the ordinary sun heat range than admit air to keep the temperature down when the sun is powerful and the external air sharp. Judicious ventilation is, however, highly beneficial in carrying off accumulated moisture and giving solidity to the growths, enabling the plants to tide over the trying ordeal of prolonged severe weather, when plants with thin-textured leaves often succumb. The syringe will only be necessary for damping the paths, walls, &c., in the morning and afternoon in bright weather, which will give rise to the needful moisture, especially where the evaporation troughs are kept charged with liquid manure. On bright afternoons a light bedewing of the plants will be beneficial, but care must be taken to practise it early and not make the foliage tender by its too frequent recurrence. All water used for damping, watering, or liquid manure applied to the roots must be of the same temperature as the house or bed.

#### THE KITCHEN GARDEN.

**BEET.**—This crop will not stand a very severe frost, and must therefore be either protected or stored at once. The leaves are more hardy than the roots, and if the latter are well mounded over with soil, these also will be uninjured in many winters. Lifting and storing, however, is the safest course to pursue, and this should be done as much as possible in dry weather, or when there is less likelihood of injury being done to the roots by reckless lifting or handling, breaking the thongs being followed by bleeding and a consequent loss of colour. Fork rather than pull the roots out of the ground, and trim off the tops, but not too closely, or bleeding from the crown will result. A cool dry shed is the best place for storing, but the roots must be packed in sand or fine soil, crowns outwards, or otherwise premature shrivelling will take place. Shed room being limited store the roots in conical heaps in a cool dry place, where neither rats nor mice are plentiful, covering with straw litter and banking over with a good thickness of poor soil. The Turnip-rooted forms are the worst keepers, and should be the first used. Extra large roots of any variety, and the former are rather numerous this season, to be given to the pigs or cows, these not paying for storing with the rest.

**CARROTS.**—These have ceased to grow, and may well be lifted and stored at once, or otherwise the formation of root fibres may recommence. These, again, should be carefully forked out of the ground, damaged roots keeping badly. Roughly clear off soil, and cut off the tops rather closer to the crowns than was advised in the case of Beet, and store similarly. Late sown crops to be left where they are, as these will continue to increase in size, and can be drawn as required for use. Horn Carrots, notably the Nantes and Guerande, store and keep admirably, and if fully grown should be treated similarly to the Intermediate and Long Orange sections, but if they are still growing leave them undisturbed, as Carrots are always more tender and sweet when cooked soon after being lifted. Those sown late in frames and pits to have plenty of air, and not to be much crowded, or they will form top growth only.

**OTHER ROOT CROPS.**—Parsnips, Salsafy, Seorzoner, Chicory, and Jerusalem Artichokes keep much the best when left in the ground till wanted for use, or as in the case of Chicory till required for forcing. A few of each might be lifted in anticipation of extra severe frosts, but if instead of this a part of the beds were heavily covered with straw litter it would be possible to dig at all times according as required. Main and late crop Tomatoes have been fit for lifting for some time past, but the weather has been all against such work, especially where the soil is of a heavy clinging character. The crops are perfectly safe where they are for some time longer, and dry weather ought therefore to be waited for before lifting the bulk of the Potatoes. It is particularly unwise to trample on heavy or clayey ground while it is in a wet state. When the tubers are forked out of the ground most of those diseased will be easily separated from the rest, and may well be well mixed with fresh lime at once. All the sorting over needed should take place before the tubers are stored, the alternative of deferring this to a convenient time during the winter not having anything to recommend it. Let quite the smallest be placed on one side for the pigs, select rather more medium sized tubers than are usually required for planting, and the rest can be stored separately for consumption during the winter, either in a cool dry shed or in a heap in the open. Warm cellars and dry rooms are quite unsuited for storing Potatoes of any kind, these causing premature sprouting and shrivelling, while if they are placed in cool sheds they must be kept quite dark, and be further protected whenever severe frosts are imminent. If ridges in the open are formed select a dry cool place for these, and cover the tubers first with 9 inches of poor dry soil, and then give a thick thatching of straw, this being a far better plan than placing the straw next to the Potatoes. The tubers intended for planting next season ought from the first to be stored thinly in light and cool positions, warmth and dark promoting an undesirable and most injurious early sprouting. Protect from severe frosts, and take advantage of wet weather to set all the Ashleafs up in trays or shallow baskets, sprouting end uppermost.

#### PLANT HOUSES.

**Allamandas.**—Plants required for early flowering should be kept dry at their roots to harden and ripen them. They will rest better in a temperature of 55° than in the stove, but on no account should they be kept too cool. Water may be withheld until they flag, but do not allow the wood to shrivel. Young plants raised from cuttings in the spring should be kept rather dry until the end of the year, when the unripe wood can be removed and the plants placed into larger pots. The temperature advised will suit these well; they need not be dried to the same extent as older plants, the roots of which will require to be reduced by one-third.

**Dipladenias.**—These should be thoroughly cleaned if infested with insects, and rested in a temperature of 60°. They will bear without injury the temperature advised for Allamandas. Water with care during the period of rest. They may be kept rather dry, but should not become so dry as to injure their roots. When these plants can be planted out where they can enjoy a temperature of 55° during winter and have a warm moist treatment, fully exposed to the sun during the spring and summer, they will be found to grow much more luxuriantly than when confined to pots. Young stock in small pots can be kept slowly advancing; they rarely do well if rest is forced upon them in their early stages. Water them carefully, and keep them in a warm house.

**Amasonia punicea (calycina).**—Keep these growing in a temperature of 60° to 65°; if retarded or starved in their present condition they will fail to develop their crimson bracts and creamy white flowers. If gentle bottom heat can be given them all the better. Water carefully, but do not allow the soil to become dry. This plant requires greater care at this period of its growth to do it well than at any other time.

**Cyanophyllum magnificum.**—If plants with large bold foliage are needed they must not be allowed to suffer by the want of root room. When confined in small pots the foliage at the base soon becomes disfigured. Repot all plants that need it. Use a compost of loam and leaf mould in equal proportions, with the addition of sand. Peat may, where plentiful, be substituted for the leaf mould. Grow these plants in the warmest part of the stove and syringe freely. If thrips exist in the house they are soon attacked if the atmosphere is allowed to become dry. Watch for these pests and destroy them directly they appear on the leaves.

**Tydeas.**—Grow these where water will not fall upon their foliage. They will do well on a shelf in the stove provided they are kept liberally supplied with water. Soot water in a clear state is beneficial to these plants. Gesneras may have the same treatment until they come into flower, when they should be arranged by themselves, or well elevated above other plants in an intermediate structure where the atmosphere is moderately dry.

**Francisceas.**—These should not be kept too warm, a temperature of 55° will suit them well. Keep them on the dry side to ripen and harden their growth. Even a temperature 5° lower will not injure them after their wood is firm if judiciously watered. They can be brought into flower in succession by introducing them into moist heat.

**Bougainvilleas.**—If these have been hardened and kept dry at their roots they may be removed to any cool structure where the temperature does not fall below 45°. A profusion of flowers depends upon the plants enjoying a complete season of rest and thoroughly ripened wood. This plant requires a longer season of rest than is necessary for the Allamanda, and will bear a much lower temperature without the slightest injury, providing its roots are kept dry. If the soil is wet about the roots while in a cool place the plants are almost certain to fail.



# THE BEE-KEEPER.

## HONEY AT THE DAIRY SHOW.

AN exhibition of honey, &c., was recently held at the Agricultural Hall, Islington, in connection with the Poultry and Dairy Show, under the auspices of the Dairy Farmers' Association. The British Bee-keepers' Association gave £10 towards the prize fund, and arranged the schedule of prizes for the honey classes, and otherwise assisted in the arrangements for carrying out the Show. The B.B.K.A. have found that an exhibition of honey, hives, and appliances is not of itself of sufficient interest to attract large numbers of the general public. They have, therefore, wisely made arrangements with the Royal Agricultural Society of England, the Bath and West of England Agricultural Society, and with the Dairy Farmers' Associations for holding exhibitions in conjunction with them. These exhibitions have been a great success, and have done much towards educating the masses in the improved methods of bee culture. The season of the year at which the Royal hold their shows prevents many persons from exhibiting, on account of being too early for the honey harvest of the districts in which they live; and although exhibitions have been held as far north as Newcastle, Scottish exhibitors were conspicuous by their absence. The different county bee-keepers' associations have also taken



FIG. 77.—FIRST PRIZE EXHIBIT OF HONEY.

advantage of the horticultural or agricultural shows for the exhibition of the honey of their counties.

The National Co-Operative Flower Show at the Crystal Palace offer money prizes, and the B.B.K.A. give silver and bronze medals for honey. This Show, held in August last, was a great success in every way. Bee-keepers from all parts of the United Kingdom were represented in the most creditable way. Never have so many samples of splendid honey been brought together in competition, and had our friend "Lanarkshire" seen it he must have admitted that the teaching of bee societies and "modern bee-keepers" had done a great deal towards the perfection arrived at. The price realised for the honey in approximate 1 lb. bottles was 1s. each, the 1 lb. sections of comb honey about the same price.

The illustration (fig. 77) represents the exhibit to which the first prize was awarded in Class 66 for 1 cwt. of beautiful honey, tastefully arranged.

The Judges (Messrs. J. H. Hooker and W. Broughton Carr) made the following awards:—

Class 63, best twelve jars of extracted honey.—First prize, H. W. Seymour, Henley-on-Thames. Second, Jas. Munro, Forfar, N.B. Third, Wm. E. Little, Eastgate Row, Chester. Fourth, Levi Inwood, Uffington. Highly commended, W. Christie-Miller, Chelmsford; Matthew Whittle, Wantage; Major-General H. H. Lee, The Mount, Dinas Powis, Cardiff; Rev. G. W. Banks, Darenth; Thos. Badcock, Southfleet. Commended, A. Mayell, Bradwell-on-Sea, Essex.

Class 64, best twelve 1 lb. sections.—First, Wm. Woodley, Newbury. Second, The Cathedral Dairy Company, Exeter. Third, J. R. Truss, Ufford Heath. Fourth, A. Hounsom, Chichester

Highly commended, Hon. and Rev. Henry Bligh, Hampton Hill. Commended, Spencer Hancox, Wytham Mill, near Oxford; Hy-Wood, Lichfield, Staffs.; W. P. Meadows, Syston, near Leicester; E. J. Oaten, Porthcurnow, Treen, Cornwall.

Class 65, best twelve sections, any size.—First, Geo. Neighbour and Sons. Second, The Cathedral Dairy Company. Third, James Munro. Fourth, W. P. Meadows. Commended, Rev. G. W. Banks.

Class 66, best exhibit of honey in any form, not exceeding 1 cwt.—First, Wm. Woodley. Second, W. Debnam, Chelmsford. Third, The Cathedral Dairy Company. Commended, J. R. Truss, Stamford; H. Harvey, Hanwell, W.; Jabez Sopp, Crowmarsh, Wallingford; Chas. T. Overton, Lowfield Apiaries, Crawley.

In class 63 there were fifty-nine exhibits of beautiful honey (708 bottles in all).

In class 64 there were forty exhibits of 1 lb. sections of comb honey (480 sections). In class 65 there were eleven entries. In class 66 there were thirteen entries each, consisting of nearly 1 cwt. of honey. It will be seen that the honey to which prizes were awarded came from the extreme ends of the kingdom and was not confined to one district.—JOHN H. HOOKER.

## TRADE CATALOGUES RECEIVED.

Dicksons, Chester.—*Catalogue of Forest and Ornamental Trees, Evergreens, &c.*

Fisher Son & Sibray, Handsworth Nurseries, near Sheffield.—*Catalogue of Trees and Shrubs.*

Richard Smith & Co., Worcester.—*General Catalogue of Nursery Stock.*

Wm. Clibran & Son, Oldfield Nursery, Altrincham.—*Catalogue of Roses, Coniferæ, Shrubs, and Fruit Trees, 1892.*

J. E. Bourne, Longton, Staffordshire.—*Lists of Seeds for 1891.*

Frederick Roemer, Quedlinburg, Germany.—*List of Flower Novelties, 1892.*



\* \* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Rainfall (A. J. L.).**—Thanks for your notification. The weight of 1 inch of rain per acre is about 101 tons, and the volume about 23,000 gallons. The heavy October rains will do much good in high and dry localities, but have been calamitous in some low-lying districts.

**Screen for Flower Garden—Planting Hybrid Rhododendrons (J. G.).**—There is no shrub equal to the English Yew "to plant for a close hedge to screen flower garden from drive," and to be kept at a height of 6 to 8 feet. Thuja Lobbi makes a good screen, but it is not so accommodating as regards clipping as the Yew. Hybrid Rhododendrons are perhaps best planted during moist weather in September, or as soon after as the weather is damp, and the ground being then warm they push fresh rootlets. They may, however, be moved at almost any time when the soil is in good condition, as they lift with good balls, but early autumn and early spring are most safe. There is ample time to plant them this autumn; but avoid doing so in severe weather, and when the ground is sodden.

**Plunging Bulbs (S. B.).**—The pots may be placed anywhere in the open air on a layer of ashes or other base impervious to worms, and covered 5 or 6 inches deep with cocoa-nut fibre refuse. This is the best material, and is used by the most successful cultivators of Hyacinths for exhibition; but ashes, leaf soil, or old damp sawdust will answer the purpose very well. The pots should remain buried until they are filled with roots and the crowns have pushed to the length of from half to three-quarters of an inch. In withdrawing them they should not be at once exposed to the full light, but covered with moss or paper funnels for a time till the growths gradually assume a green hue; after this they cannot have too much light.





## HARDY FLOWER NOTES.

THERE are days when the lover of flowers is fain to keep within doors—days when the drip of the rain tells that outdoor work must be left undone, and to those who know of much to do the desire to be “up and doing” becomes difficult to resist. Experience tells us, however, that there is no gain, but loss in such work, when as Longfellow in melancholy words says :—

“The day is cold, and dark, and dreary ;  
It rains, and the wind is never weary ;  
The Vine still clings to the mouldering wall,  
But at every gust the dead leaves fall,  
And the day is dark and dreary.”

It is not fitting, though, that the spell of the dreary day should enthral us, and though, as the same great poet tell us :—

“The hooded clouds, like friars,  
Tell their beads in drops of rain,  
And patter their doleful prayers.”

Let us rouse ourselves from our dullness, and if need be wander into the garden with overcoat and see if these drenched flowers can bring us a message of cheer. Nor need we wander long—nay, from the window itself can be seen something to think of. There, still in flower, is the pure white *Anemone japonica alba*, with petals of virgin whiteness inside, touched on the outside with a blush-like tinge of red, with its many bright yellow anthers, and its button-like boss of greenish yellow. Near by is a plant of the typical *A. japonica*, one of Robert Fortune's introductions, which, although not so chaste as the white variety, is one of our cherished flowers. Fortune, in his “Wanderings in China,” mentions it as follows :—“The flowers which the Chinese plant on or among the tombs are simple and beautiful in their kind. No expensive Camellias, Moutans or other of the finer ornaments of the garden, are chosen for this purpose. Sometimes the conical mound of earth—when the grave is of this kind—is crowned with a large plant of fine, tall, waving grass. At Ningpo wild Roses are planted, which soon spread themselves over the grave, and when their flowers expand in spring cover it with a sheet of pure white. At Shanghai a pretty bulbous plant, a species of *Lycoris*, covers the graves in autumn with masses of brilliant purple. When I first discovered the *Anemone japonica* it was in full flower amongst the graves of the natives, which are round the ramparts of Shanghai ; it blooms in November, when other flowers have gone by, and is a most appropriate ornament of the last resting places of the dead.” If it thus is one of the last tributes of respect and of love paid by the Chinese to their lost friends, we may well also look upon it as one of the last tributes of Nature to the departed summer, and one, too, which has no fleeting summer's life only, but springs afresh from year to year to delight us with its beauty. Nor must we forget these few remaining *Gladioli*, the “Sword Flag” of the old writers ; while most are past some still remain, and need I say I prize them much. Strange is it that so few of the poets speak of them. Lord Lytton, however, says of one of the family :—

“And the small wild Pinks from tender  
Feather Grasses peep at us ;  
While above them burns on slender  
Stems the red *Gladiolus*.”

Is there not a golden lesson here for those of us who are forced to admit that the *Gladiolus* needs some groundwork, some setting in which to place the jewel, something from which the sword-like leaves and tall stems may rise and deprive them of the stiffness inseparable from them as usually grown ? Would not this groundwork of “small wild Pinks” and “tender Feather Grasses” be a charming setting for the bright crimson of *Gladiolus brecheyleyensis*, or the pinks, and salmons, and whites, and purples, and the streaks, and feathers, and spottings with which many of the varieties of *gandavensis* glow ? There are still some fifteen in flower in my garden, mostly seedlings of my own raising, among them a good white, slightly pencilled with purple. The raising of *Gladioli* from seed is so interesting, and withal so easy, that I am surprised it is not more followed by those who have sufficient time on their hands. Here, flowering in a quiet corner at the base of a rockery, is *Primula capitata*. For this flower the rain has no terrors, and gladly do we see its purple coronal surmounting its slender yet strong mealy stem. Very beautiful is this crown of small flowers of deep, almost blue, purple inside and paler purple outside. The leaves are of the usual primrose shape, averaging about 4 inches in length, tooth-edged and mealy underneath. It was originally collected by Hooker in the Sikkim Himalayas in 1849, and was found in gravelly soil at a height of about 10,000 feet. It is one of those flowers which might well share with its congener, the Cowslip, the honour of being a hiding place of the fairies. While it has not the “rubies, fairy favours” of the Cowslip, its tubulous flowers are extremely pretty, and doubtless some native legend is connected with the flower could we but know it.

Flowering freely in the rock garden is *Saxifraga Fortunei*, which, while not showy, is decidedly attractive, its white flowers looking particularly quaint on their tallish red stems above the bright green leaves. It is a native of Japan, and is said to have been introduced in 1863. It belongs to the same section as *S. sarmentosa*, the Mother of Thousands, and is very valuable from its late flowering habit. It is not considered very hardy, but I have grown it in the open without protection for about three years, and I know of a few gardens in which it has proved quite hardy. The *Tritomas* are still in flower, and nothing in the way of rain seems able to quench their flaming torches ; indeed, they seem to enjoy the moisture, and the manner in which their flowers are arranged on their bottle-brush like heads of flower is a great aid to their remaining in flower so long. The rain cannot reach the inside of the flower, and runs off on the outside. On the rockery a fine plant of *Hypericum reptans* still keeps well in bloom. To me there is always something peculiarly attractive in its pale yellow saucer-like flowers. I am an admirer of the genus, and there is a considerable diversity in habit and in the size and style of the blooms. Yet there is none prettier than this little species of *St. John's Wort*. To the beauty of the plant is added the charm of the connection of the *Hypericums* with ancient legends and superstitions. Few flowers are more widely associated with plant lore than the *Hypericums*. The *St. John's Wort* seems to have been a plant celebrated in heathen mythology. The Rev. H. Friend in his “Flowers and Flower Lore” tells us (page 147) that Baldur and Heindal the two “white gods” of Valhalla, who represent the sun, and whose peculiar epithet referred to the brightness of sunlight, were replaced by *St. John*. “Flowers with large sun-shaped discs, either white or golden yellow, were dedicated to Baldur, as the sun god, and it was in this manner that the *Hypericum* became the peculiar property of *St. John*, and as the ‘fuga dæmonum,’ was so powerful in repelling the works of darkness.” The little *H. reptans* is very pleasing hanging over a large stone where its bright green foliage and pretty yellow flowers about an inch across with the thread-like centre so characteristic of the *St. John's Worts*.

From the plant anciently dedicated to the “sun god” of



Scandinavia we naturally turn to the Sunflowers of our days. Like the sun itself their rays are now but few; in truth *Helianthus multiflorus maximus* is the only one still in flower, and although its flowers are at present far from lively looking, yet it lights up a dull corner somewhat. One wonders which of the Sunflowers it was that is the subject of Ovid's mythical legend of Clytie, who was, on being deserted by Apollo, turned into a Sunflower, and of whom Hood rather unfeelingly says—

“ I will not have the mad Clytie  
Whose head is turned by the sun.”

If we are to believe that the original Tournesol followed the sun in its course from east to west, then none of the perennial species I am acquainted with can claim the honour of being the transformed Clytie. The truth is it may not have been a *Helianthus* after all. I am afraid some of the practical readers of the Journal will be saying, long ere this is reached, *cui bono*? It is true none of us are prepared to admit the truth of these myths and legends, but all the same they give an added interest to the plants to which they refer, and flower culture should not be with us a matter only of soils and manures, of pounds, shillings, and pence; but should also brighten us with thoughts of long ago, and of the many quaint fancies regarding the plants cherished by past ages. Even if we can only smile at their legends and myths, is there no good in this? no good in these thoughts in gloomy days when “the world is too much with us”? It seems to me that the more the gardener—professional or amateur—knows of the legends, myths, and poetry of the flowers he grows, the keener will be his enjoyment of them, and the more will their beauty entice him.

But this is a digression, and there are still some flowers to speak of which I am unwilling to leave lest before another opportunity occurs King Frost should have entered the lists, and with his keen sword cut down his beautiful but feeble opponents, I must thus pass on.

A pretty little *Campanula* for the rock garden which has flowered for a long time is one that I have under the name of *C. hirsuta*, but which I have seen elsewhere under the name of *C. mollis*. It has pretty, hairy, heart-shaped foliage, and small drooping open blue flowers with white centre. It seems allied to *C. garganica*, but is not the variety known as *C. garganica hirsuta*, nor is it a variety of *fragilis*, being without the brittleness of the latter. *C. Hendersoni* is still in flower, and is one of the most valuable of the genus on account of its free blooming qualities. *Sedum spectabile* is very bright just now with its bright purple-like flowers, and it is so accommodating a plant that it ought to be met with everywhere. While it will live in a dry, poor soil it is seen to much better advantage in rich soil. If well treated it will develop enormous heads of good colour. It also makes a good pot plant. Brilliant still, and seemingly flourishing in the rain, is the beautiful *Potentilla nepalensis*, not by any means a new plant, having been introduced in 1822, but yet too seldom met with. It is of trailing habit, sending out long stems, which produce fine red-purple flowers at the ends, which are raised above the ground. It is seen to best advantage in a clump, and either on the level ground or the rockery is extremely beautiful. It is also known as *P. formosa*, and I observed it grown under the latter name in the grand collection of hardy flowers at Dickson's Nurseries, Chester, last August. The name *formosa* seems to have the precedence, but *nepalense*, which was, I understand, given by Hooker, seems in more general use. I have already said more than I had intended, but I cannot refrain from mentioning *Corydalis lutea*, which seems as if the rain was congenial to its nature. It has been in flower all the season, and at the end of October was a picture of beauty with fresh green foliage and golden pendent flowers. Other things would call for mention, but I must forbear. Auriculas and Polyanthus are sending up heads of flower, and are pointing out the lesson of hope for the future; hope that when the dark days now drawing nigh are over we shall enjoy a feast of beauty once more.

Thus we begin to realise something of the sublime thought of Keats in his sonnet to Homer:—

“ Aye, on the shores of darkness there is light,  
And precipices show untrodden green;  
There is a budding morrow in midnight.”

—S. ARNOTT.

## SUCCESSIONAL APPLES FOR AMATEURS' GARDENS.

[A paper by MR. W. GOARING, Weald Hall Gardens, Brentwood, read at a recent meeting of the British Fruit Growers' Association, Horticultural Club, Hotel Windsor.]

It is not my intention here in these brief remarks to enter into the system of growing and disposing of our most useful of all hardy fruit from a commercial point of view, but rather to confine myself to those about to plant in their own small private gardens individually. I will endeavour to point out to intending planters the best method of maintaining a constant supply from their own resources, leaving the large trade growers and salesmen to cater for the masses who have no means of growing their own fruit.

In a brief paper of this description it is impossible to enter minutely into the whole business of Apple production, but I will endeavour to place my ideas before you in a simple, practical manner. To make them as plain as possible I will divide my paper into four sections as follows:—1st, Selection of Trees; 2nd, Preparation of Ground, Planting and Pruning; 3rd, Fruit Room and Storing; 4th, Insect Pests, briefly touching upon each of them in the order named.

**SELECTION OF TREES.**—This may at first appear somewhat early in my remarks to refer to this most important point. Upon it depends the foundation of success or failure of the plants. By way of making a commencement it will be well for the intending planter to have a limited number of trees of approved sorts, and treat them well, rather than overstock himself at the commencement. Success with a few will probably result in the careful treatment of a much larger number in future years; but failure through having a larger number than can be skilfully managed will probably lessen the interest originally attached to them. Glowing ideas at first formed will not be realised owing to overwork, the idea of Apple culture for the use and pleasure of one's own family will probably be abandoned never to be repeated. With regard to the number of trees to be planted, much depends upon the means and requirements of the intending planter. Apples may be grown with success in several forms, but the four ways in which I find they answer best are as follows: bushes, espaliers, cordons and standards. For bushes I find the most suitable varieties with me are—for dessert—Early Margaret, hardy and good cropper; Red Astrachan, extremely handsome and a good cropper; Duchess of Oldenburg, hardy, exceptional cropper, handsome, moderately good flavour; King of Pippins, hardy, good grower, and a reliable cropper; Cox's Orange Pippin, undoubtedly the best of the dessert varieties for flavour; Sturmer Pippin, a most excellent late Apple. Worcester Pearmain, a large conical Apple very popular at the present time, bears on the points of the shoots, which must be remembered in pruning.

**For Cooking.**—Keswick Codlin, an old and popular Apple; Stirling Castle, extremely prolific, should be bought on the Crab; Ecklinville, large, and a good bearer; Potts' Seedling, a very heavy Apple, tree exceptionally dwarf and a good bearer; New Hawthornden, an excellent Apple, and good grower; Wellington, an exceptionally useful Apple, good cropper, cooks well, and is in use a very long time, and Lane's Prince Albert.

**For ESPALIERS** I find the following with me are suitable:—

**Dessert.**—Red Astrachan; King of Pippins; Scarlet Nonpareil, tree hardy and good bearer; Cox's Orange Pippin; Sturmer Pippin; Court Pendu Plat, a very late Apple.

**For Cooking.**—Lord Suffield, where the soil is warm; Cellini, sure cropper; The Queen, a handsome new Apple; New Hawthornden; Warner's King, a large heavy Apple; and Wellington.

**For CORDONS** I consider the following a good selection; they do well with me:—

**Dessert.**—Red Astrachan; Kerry Pippin, a useful early Apple; King of Pippins; Cox's Orange Pippin; Lady Sudeley, new and excellent; Sturmer Pippin.

**Cooking.**—Stirling Castle; Warner's King; The Queen; Cox's Pomona, a handsome Apple; Potts' Seedling; Wellington.

**As STANDARDS** I find the undermentioned do well:—

**For Dessert.**—Yellow Ingestrie, an attractive Apple; Worcester Pearmain; Fearn's Pippin, a good Apple, but the trees do not bear quickly; Duchess of Oldenburg; Cox's Orange Pippin; King of Pippins.

**For Cooking.**—Keswick Codlin; Potts' Seedling; Warner's King; Lord Derby, an excellent Apple; Ecklinville; Wellington



and Lane's Prince Albert. Several others might be added, but I have found the foregoing thoroughly reliable.

It is very interesting to have a trial ground in some convenient place. A large selection of approved sorts may be grown there, and will prove very interesting and instructive. Presuming the intending planter to have decided on the number of trees of each form he wishes to plant, his best plan will be to pay a visit to some well-known reliable nurseryman in the late summer months, and personally select his trees, taking due care to have them marked ready for delivery when the lifting season arrives. This plan of personally selecting the trees I regard of the utmost importance, for the following reasons:—You have the choice of the very best trees for sale; by selecting them early you practically insure early autumn delivery; and further, you have a good opportunity of comparing the merits of the different varieties, and forming an opinion on the ground of any new sorts that may have been recently introduced to commerce.

**PREPARATION OF THE GROUND, PLANTING, AND PRUNING.**—In my opinion the most useful of all trees for the moderate sized garden is the bush, which should, with few exceptions, be planted on the Broad-leaved Paradise. They may be conveniently planted by the sides of walks in rows about 6 feet apart and the same distance from the path. The ground should be trenched 10 or 12 feet from the walk and 18 inches deep or thereabouts, according to its nature, and drained if necessary. Holes should be dug at the required distance from each other, and from 12 to 18 inches deep, according to the nature of the soil. If the soil is wet they may be somewhat shallow, and if dry they may be somewhat deeper, but in no case must the tree be planted deeper than it was originally. The holes must be slightly higher in the centre and well covered with slates or brick rubbish to prevent the roots going downwards. At planting time a good stake should be in readiness to drive in the centre of the hole to secure the tree, also some good turfy loam, to induce the formation of fibrous roots. The roots should be carefully pruned with a sharp knife, making the cut on the under side to induce the new fibrous roots to start from the top of the old root, and ultimately become what are termed surface roots. Without these surface roots it will be impossible to succeed, as they are the first to take any nourishment that may be administered to the tree, also the warmth in the summer.

The trees should in most cases be shortened back to a wood bud, pointing outwards, before the end of the current year, in which they were planted. In my opinion, from my own experience, I believe one of the chief causes of canker in newly planted trees is the result of shortening back late in the spring. Severe and untimely pruning, I believe, induces canker if the operation is performed in the spring, when the buds are swelling and the sap is at work. It must either overflow by the wounded surface and cause weakness or it must stagnate, and when it does so, being partly in contact with the air, it becomes vitiated and the bark cankers and shells off, leaving a long dead stump, which requires to be cut off, and even then the wound is difficult to heal over, setting aside the loss of wood, of time, and perhaps the loss of the whole tree.

**ESPAIERS.**—This is a useful and economical type of tree for small gardens. They may be conveniently planted by the side of walks, about 4 feet from the walk, the ground having been previously trenched as for bushes, a post placed at each end of the line to be planted, and others at intervals of about 18 feet along the lines, and a hole as described for bushes dug midway between each of the posts. Strong wires should be strained along the posts at the same distance as the branches are apart on the espalier trees generally. Do not shorten these horizontal branches, but tie them in the full length for the time being; they will help to keep the tree in action, and may be shortened if necessary when the tree is at rest.

**CORDONS** require a more restricted method. A trench should be dug out about 18 inches deep and 3 feet wide, stout posts placed along the line as for espaliers, about 6 feet high; strain the wire tightly along the top, another about half way down, and one along the line of the posts near the ground. Tie long bamboos to the wires at an angle of 45° to 50°, and 18 inches apart. Plant one tree to each bamboo, and secure them as the work proceeds. These bamboos will be found to protect the trees from the wires, and will be found very handy for securing the leaders of the trees to, more especially if maidens are bought. It should be mentioned that the leaders of the trees should not be stopped if they can be induced to form spurs as they proceed in growth.

**STANDARDS.**—These are too often planted in a careless and slovenly manner, but if success is to follow the efforts of the planter the work must be well and carefully done. The ground should be broken up to a depth of 24 inches, good large holes dug for the trees, the injured roots carefully pruned with a sharp knife, and the whole of them carefully distributed in the hole, a stout stake

having previously been placed there in the centre, the tree securely tied to it before it is left, not, as is too often the case, left undone for the time being, and perhaps never done at all. As a result the trees bow to the ground with the wet and wind, and then our amateur cultivators wonder why their trees do not bear fruit. The trees should be shortened back when perfectly dormant, but do not defer the operation till late in the spring, or canker will assuredly follow. No time should be lost in giving all the newly planted trees a good mulching of decayed manure to prevent undue evaporation and protect the roots from frost.

**FRUIT ROOM AND STORING.**—How often, even in large well-known gardens, do we find a poor makeshift structure for the preservation of fruit, after all the expense and trouble of producing it. What credit is it to an employer, what encouragement to the grower? A good room efficiently constructed may be some little outlay at the beginning, but if properly done it will last as long as any of the surrounding buildings. I recently constructed one on the following lines, at the back of a north wall, some 45 ft. long and 12 ft. wide to accommodate fruits from newly planted trees; the ground was taken out sufficiently deep to allow of a doorway, 6 ft. 3 in. deep, at the same time giving a good pitch to the roof which is of thatch. The floor is of concrete throughout; there is abundance of ventilation at each end, and shutters to keep out frost. The windows open outside and the shutters inside. The shelves are of beech wood smoothly planed, with the edges evenly bevelled to prevent the fruit becoming bruised. The shelves on one side are 2 feet wide and 18 inches apart from top to bottom of the room; on the right I have one long continuous bench with bins underneath, to hold fruits in large quantities. From this room we, this year, had fruits until July, and have even now some Wellingtons in good preservation. In storing be careful to pick all fruits as they approach maturity; if they part readily from the tree the gatherer will be all right. Do not become alarmed at a few stray ones dropping from the trees. The period of gathering is a busy and interesting time for the grower, he has then as it were the reward of his labours for the past season. The fruit should be placed gently in shallow boxes with a layer of wood wool at the bottom to prevent them becoming bruised. None that have dropped or are in any way bruised should be placed in the store room with the good ones. Be careful to keep the varieties separate, and arrange the best as near together as possible, it will prove interesting to visitors.

**INSECT PESTS.**—A long paper might be written on this subject alone, as we do not yet appear to have any very definite authority as to the best means of eradicating them. The Royal Agricultural Society of England, in their Journal for June last, published a very interesting description of them, and gave some good sound advice which it would be well for the grower to make himself acquainted with. Speaking from my own experience the best and safest remedy which I have used is softsoap and quassia, one ounce of each to a gallon of water; boil the quassia until it sinks, afterwards adding the softsoap when cooling. A quantity of this mixture should be in readiness to use at once when the pests are first discovered and then at intervals of ten days afterwards for winter moth. Do not wait until they are actively at work, but remember that prevention is better than cure. The same remarks apply to aphides. They must be kept down, otherwise it is impossible for the trees to thrive, and in my opinion it is only by a constant and unremitting use of insecticides that they can be successfully dealt with.

### SHOULD ASPARAGUS BE MULCHED.

UNDOUBTEDLY giving Asparagus beds an autumn dressing of manure is a time-honoured practice, but that does not prove that it is right in all cases. There are plenty of instances where a good dressing of "fat" manure, duly covered over with soil from the sides and alleys between the beds, may be of some benefit, or at any rate are not injurious beyond destroying many side roots, the soil and subsoil be naturally light and well drained. When, however, heavier soils or those of a clayey retentive nature have to be considered, I must most unhesitatingly answer the question as to whether autumn mulching should be practised in the negative. It is my firm belief more Asparagus roots have been weakened or killed outright from excessive moisture during the winter than from any other cause. The roots, if not actually on the surface, defy the sharpest frost; but much moisture, and which is usually accompanied by low temperatures, proves too much for them. A heavy surface dressing of farmyard or other solid manures applied in the autumn have the effect of keeping the ground in a cold saturated state, and from which it will not recover for many months. If the roots do not perish outright they are inevitably weakened by the ungenial state of the soil, and in any case active growth is bound to be late. What, also, is undeniable is the fact that cold saturated ground is the first to suffer in a dry



season, surface-cracking being with the greatest difficulty prevented. Just now the ground is in an exceptionally wet and cold state for the time of year, and no vegetable will suffer from this excess of moisture and absence of sunshine more than Asparagus. To mulch the beds would, in our case at all events, only aggravate the evil, and from personal observation I am of opinion that there is not a single Asparagus bed within a radius of twelve miles that would not be better without than with a mulching of manure. When the surface of the beds are merely cleared of dead Asparagus growths and weeds, not being deeply loosened in any way, very much of the rain that falls passes away freely, the worms' runs greatly assisting in this desirable end; whereas if the surface is loosened it becomes most absorbent, and far wetter and colder in consequence. It is not manure so much as warmth and a moderate amount of moisture that Asparagus stands in need of, and I hold that heavy autumn or early winter dressings of rich manure is both wasteful and, as I have attempted to prove, injurious.

There are yet other objections to be urged against these mulchings of manure. Asparagus needs a free open surface in the spring, but if there is any clay in the composition of the soil excluding frosts it is a sure way of sealing over the surface. Exposed to all weathers, including winter frosts and March winds, the surface becomes well pulverised, and therefore more amenable to the form of surface culture I am about to advocate. Once more, however, let me repeat, no one need be afraid of any injury frosts may do the roots, as I failed to note the loss of a single plant last winter, and yet there was no mulching or protection of any kind afforded. Another advantage derived from leaving the surface of the beds uncovered is the check this must give to slugs. On clayey land especially the latter invariably prove very troublesome, and a mulching of manure gives them just the kind of shelter and breeding quarters that suits them well. I do not assert that slugs are easily caught napping by frosts, but on the contrary, they seem only too capable of taking care of themselves, burying deeply or otherwise working into snug quarters whenever severe frosts are imminent. One thing is very certain—they are always the most plentiful in beds that have been dressed with solid manure.

The question that now arises is this—If the beds are not to be manured in the autumn or early winter months, when are they to be attended to? Well, as I have previously stated, it is not such a vast amount of manure that is required, and in any case better results in most instances attend the application of artificial or special manures than by the use of solid manure. What is the use of applying so much solid manure when its effects are not unfrequently to destroy many roots and to poison the ground? My advice to those who have long adopted the plan I have condemned, unless indeed they are perfectly satisfied with the results, is to discontinue it for at least one season, being content to fork in a liberal dressing of newly slacked lime, three bushels to the square rod being none too much. The late Mr. Shirley Hibberd proved to demonstration that Asparagus is greatly benefited by a free use of lime or lime rubbish mixed with the soil, and most gardeners are well aware what an excellent corrective of sourness and over-richness an occasional surface dressing of lime proves. Salt would appear to be the only fertiliser other than solid manure that many growers think it necessary to use, but it is by no means indispensable; and if the soil is of a clayey nature applications of it are very likely to do more harm than good. It makes the clay run badly, and to hold far more moisture than is good for Asparagus. Guano is a far safer and, in many cases, a much more effective manure, two dressings in the spring, the last being given not later than May at the rate of 2 lbs. to the square rod, answers well, and so do several of the advertised prepared manures. Lightly forked or stirred into the surface there will be no waste, rains washing the quickly soluble parts down to the active roots well spread throughout the sweet and genial soil below. These manures, and the dressing of lime in particular, are very destructive to the slugs, and prevent the loss of many valuable early shoots, as well as the skinning of the stems of late reserved growths.

Asparagus crowns ought not to be located quite up to the surface, a depth of 3 inches or rather more of fine light soil protecting and otherwise improving the young shoots. Instead, therefore, of giving annual dressings of solid manure the better plan is to substitute the artificial or other manures already alluded to, followed by a good surfacing of fine light soil, such, for instance, as sifted old potting soil, leaf soil, spent tan, fine peat, old Mushroom bed manure, soil from the surface of Melon and Cucumber beds, ashes, fine mortar rubbish, all or a portion of them in mixture, drawing the line, though, at anything likely to be full of weed seeds. A liberal dressing of such material will exclude a certain amount of frost, thereby saving many early shoots, the latter and "grass" generally drawing up through

without any check, and he can be readily traced to the crowns and twisted off without injury to later growths. This loose material also proves an excellent preventive of rapid loss of moisture in hot dry weather.—W. IGGULDEN.



## NOTES ON SOME OF THE NEWER ROSES.

(Continued from page 392.)

### TEAS.

*Cleopatra* (Bennett, 1889).—As maiden dwarfs this Rose was disappointing. It very often came with a double centre, which always seems a great pity, and the second growth has been very weak—mere spray. I expect that it will be better, like many others, on standard stocks not too strong.

*Ernest Metz* (Guillot, 1888).—I am in hopes this will do pretty well as a dwarf. It was very little shown this year, but ought to come to the front next season, as it makes comparatively good growth, and a fair amount of buds for propagation can be found.

*Ethel Brownlow* (A. Dickson, 1887).—I am surprised that this is not shown more. The form of the flower is most excellent. It can be grown of sufficient size, and under favourable circumstances it makes good growth, but in this last respect it seems uncertain. I have lately cut some lovely buttonholes of this sort.

*Lady Castlereagh* (A. Dickson, 1888) must surely be dismissed as a failure.

*Madame Hoste* (Guillot, 1887) holds its own well. Of capital growth, large size, good form, and beautiful colour when shaded, its sole reproach is that it is rather too thin for hot weather.

*Madame Pierre Guillot* (Guillot, 1888).—This is too full a Tea Rose to come to any good in such a season as the past one. It appears to have good capabilities, and I hope we may see it in its true character next year.

*Mrs. James Wilson* (A. Dickson, 1889).—An excellent grower, of quite unique habit. My plants have all made strong secondary shoots this autumn. It is something like Marie Van Houtte in colour, but quite distinguishable. I have not, however, had any blooms that merited a higher title than "pretty," as it is not quite up to the mark in size, and barely perhaps of first-class form.

*Princess Beatrice* (Bennett, 1887), which, though hardly of full size, is very fine early in a dry hot time, has unusual "manners and customs" for a Tea Rose. It grows fast and strong early, blooms in June, and—*voilà tout!* The rest of the season it simply exists; a considerable percentage of the plants make no further move whatever, and under any circumstances that I have seen the secondary growth is very weak. In a less degree *Cleopatra* seems to have this habit; it is a very undesirable one, and strangely different from that of Tea Roses in general.

*Sappho* (W. Paul & Son, 1889).—I saw some nice blooms of this Rose at Mr. F. Cant's, but it was too late in the season to form a judgment of its qualities for exhibition.

Of the new Roses shown at the Crystal Palace Mr. W. Paul's *Corinna*, T., was, I thought, well worthy of notice. Some said it was like *Princess of Wales*, but it appeared to me quite distinct. It is not, I find, yet in commerce, and I hope Mr. Paul will show it again for the gold medal. Mr. G. Paul's *C. Gater* (H.P.) was bright, and is, I hope, good; but it looked like a weak grower. Lord Penzance's exhibits of hybrid Sweet Briars were interesting, but I was surprised to see the very little improvement made. Out of (I think) a dozen different hybrids no distinction from the common Sweet Briar was observable, except just the colour. Perhaps there is a desire to keep these hybrids single, but in addition to there being no increase in the number of petals there was no apparent advance in their size or stoutness. He exhibited, however, one hybrid—*Rob Roy*, a seedling from *Village Maid*, which was calculated to attract attention. Four or five flowers of it were shown, and all were very poor except one, and that was quite a good bloom of its sort. It was of the *Marchioness of Dufferin* shape—even, solid, and smooth. Had it stood alone it might have won commendation; but its companions (brothers and sisters) detracted much from its value.

Mr. W. Paul is issuing, from the American firm of Wood & Co., a Rose I have not seen—*Waban*, a darker sport from *Catherine Mermet*. Sports to a lighter shade are generally the best, but it is difficult to see how one from *Catherine Mermet* can be anything but a good Rose. Another American sport from the same variety—*Ruby Gold*, with a most attractive description—a "*Catherine Mermet*" with shadings of *Maréchal Niel* and *Old Gold*, is in one or two catalogues, but from inquiries I have made I think it has not yet bloomed satisfactorily in England. It is all very well to say a Rose is of the shape of our champion Tea (see "*E. M.*'s" analysis), but an actual *Mermet* with yellow shadings and blendings sounds grand indeed. Let us hope it will prove so.

It is gratifying to find an increasing number of English names every year among the new Roses, and that Great Britain with Ireland (long may they be united, at least in their love for the Rose) can now well hold their own against France and the continent.



## ROSE THE QUEEN.

I am sorry to have made a slip as to the raiser of this Rose. I thought it was introduced here from America principally by Messrs. W. Paul and Son, and they have generally been the foremost in presenting us with novelties from the other side of the Atlantic, so that we naturally look upon them as the introducers as far as we are concerned. The Bride is quite established as one of our very best Tea Roses, and I trust that Waban and Ruby Gold may prove equally valuable; but it is a great pity that the white sport from Souvenir d'un Ami should have two names, and if the matter cannot be arranged a new pair of duplicates should at once be added to the list of the N.R.S.—W. R. RAILLEM.

## TOMATOES OUT OF DOORS.

TOMATOES on the open walls have been a success this season. This fruit has become very popular and is in great demand, prices for it are high, and cultivation is extending. As money can be made by its culture every space on a south wall should be used. This has not been a favourable season, but with care we have managed to procure a fine crop of useful size Tomatoes.

The seed was sown on the 11th of February in stove heat; the seedlings were placed two in a pot, and finally in 8-inch pots. The soil was made firm with a stick, and they were also planted firmly when put outside. In April the plants were put in cooler pits and ventilated freely. In May they were placed in a cool greenhouse fully exposed to the sun, and kept there until the first week in June, when they were planted against the open wall, and trained to a single stem.

We have tried hardening them earlier outside, but the cold winds invariably experienced here at the end of May usually injured the plants. By keeping the plants in longer, some are in bloom and even set fruit, before being placed out, and we gathered a few ripe fruits at the end of August.

We have used a quantity, and have gathered the remainder to put on shelves in the houses to ripen. Sutton's Earliest of All is the only variety that we have grown of late years, but Conference will have a trial next year, as a round variety is preferred if found equally good in other respects.—GEORGE HARRIS, *Alnwick Castle Gardens*.

## VIOLAS.

MR. WM. DEAN'S interesting notes on the above in a recent issue will no doubt be welcomed by many, for at this season we generally try to find out any new varieties of merit with a view of improving our collections. I do not, however, think much improvement has been made during the last three years or so, for, as Mr. Dean justly remarks, "The newer varieties have little of the true Viola character, and too much of the Pansy breed is being infused." I do not wonder that "many inquiries are made as to what constitutes a Viola and a Pansy," for they are now so mixed in character that it is hardly possible to distinguish the one from the other; such varieties as Crimson King are neither more or less than an inferior Show Pansy.

We have the properties of the "Show" and Fancy Pansy clearly defined, and both have been so much improved by florists that we may say they have in their respective classes reached the ideal of perfection. This cannot be said of the Viola. Of course it is asserted by some that the Viola is not a florists' flower. But why not? There is no flower more popular or more useful. It has been taken in hand by the florist and improved, but no one has ventured to lay down the properties of a Viola. This in a measure no doubt keeps many from distinguishing them. Mr. Dean remarks, "Botanically both are Violas." True, but they are distinct species, as much so as *Viola odorata*, another species agreeing in the general structure of their flowers.

The present is perhaps a good opportunity of trying the subject under consideration, and those who are interested in the flower will perhaps throw out suggestions as to what constitutes a Viola. My own opinion is that the Viola pure and simple ought to be in character similar to *Viola cornuta*. The rays or pencilling to be the distinguishing feature, and all those that partake of the Pansy breed, and are of various colours, should be termed "Fancies," or hybrids, to distinguish them from the former, in the same way as the Fancy Pansy is distinguished from the "Show" varieties. I consider *Violetta* a true type of Viola, and probably the forerunner of a new and distinct race. It has one very important feature. It is as sweetly scented as the Violet. The seedlings I have raised from *Violetta* are also very fragrant and of the same distinct type, but differing in colour. This year I have been able to harvest a fine lot of seed, which ought to yield some novelties of the same character. It is a curious coincident that *Violetta* is the result of a cross between *V. cornuta* and *Blue Bell*—the two varieties mentioned by Mr. Dean as introduced long ago, and which suggested

the term Viola—as distinguishing a distinct type from the ordinary Pansy, and I believe if we take *Violetta* as our ideal, we will very soon get a collection of Violas that will not only assert a distinguishing feature peculiar to itself, but establish its right as one of the most popular flowers of the day.—GEO. STEEL, *Heatherslaw, Cornhill-on-Tweed*.



CYPRIPEDIUM YOUNGIANUM (C. CORNINGIANUM).

THIS handsome hybrid *Cypripedium*, which is a very distinct type, possesses a somewhat interesting history, for the same cross was made by two different firms, and when the plants obtained produced their flowers each received a special complimentary name.

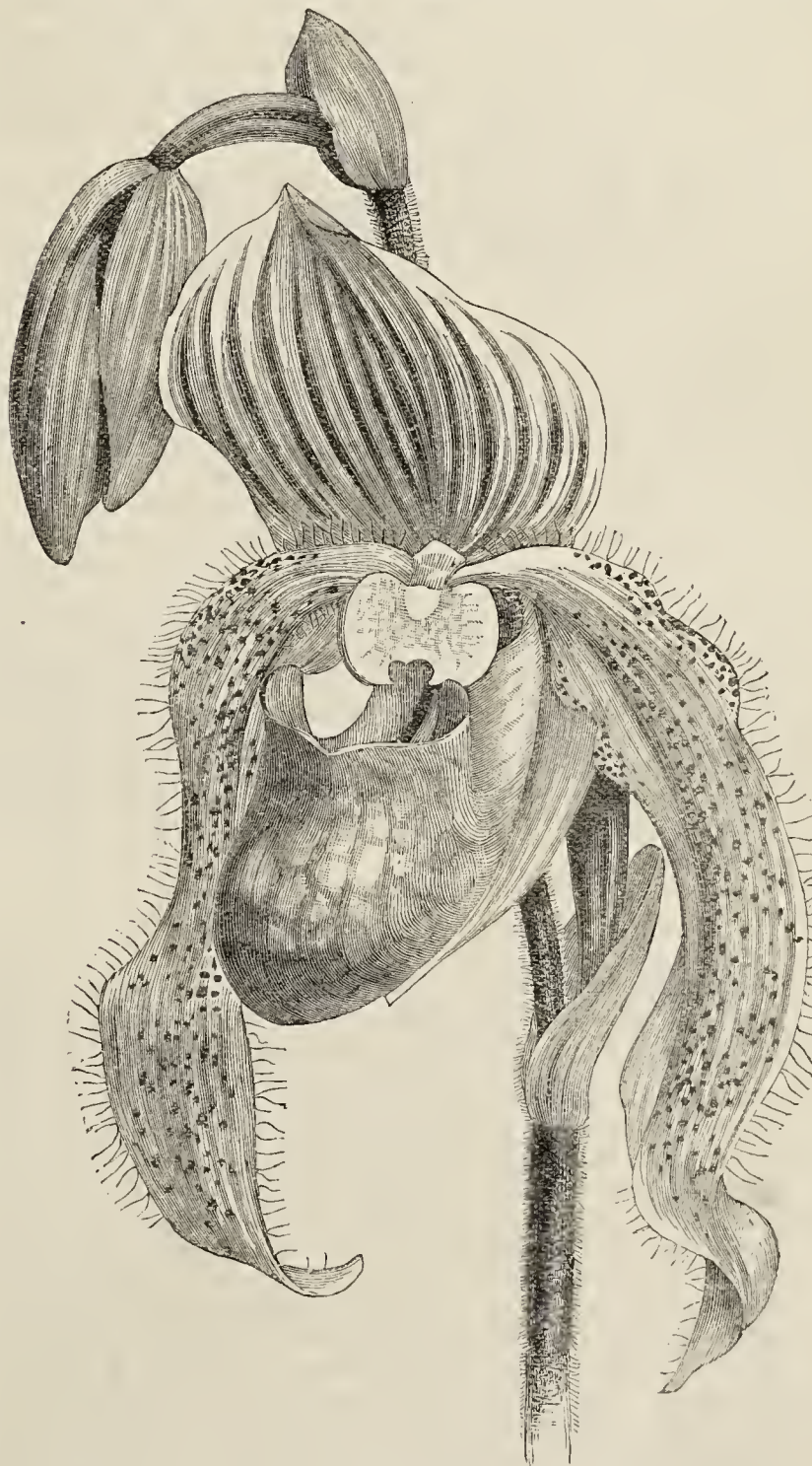


FIG. 78.—CYPRIPEDIUM YOUNGIANUM (C. CORNINGIANUM).

Under the name of *C. Corningianum* a plant was submitted to the Orchid Committee of the Royal Horticultural Society on August 11th this year, when a first-class certificate was awarded for it. Concerning this, however, Messrs. J. Veitch & Sons, Chelsea, write as follows:—

"The *Cypripedium* referred to was raised by Seden from *C. philippinense* (pollen) and *C. superbiens* (seed). On flowering we named it in compliment to Mr. Corning of Albany, U.S.A.; but we subsequently found upon comparison that it agreed in all its essential characters with *C. Youngianum*, raised from the same parentage, and exhibited by Messrs. Sander & Co. at the R.H.S.



meeting, July 8th, 1890. The name *Corningianum* must therefore be dropped. We have not a plant in flower at the present time, but so far as we can recollect your representation of it is a very good one."

The flower is large, massive, and of a particularly bold appearance; the dorsal sepal broad, white, with greenish and purple prominent veins running from the base to margin. The petals are also broad and drooping, white and green-tinted, with dark crimson or purplish dots, and marginal rows of hairs. The lip is neat in form, greenish, with a polished surface and a light staminode. The white ground of the flower gives it a very distinct effect amongst hybrid *Cypripediums*.

### LEAF SOIL.

I do not think gardeners, as a rule, pay nearly enough attention to the storing of leaves for future use, especially where strong soil has to be managed. It is much more valuable than the bulk of farmyard manure, especially that from the cowhouse for land of the character indicated. I know that here without leaf soil it would be most difficult to succeed with the flower garden were it not for the liberal employment of leaf soil annually. With the aid of this and a small portion of peat we can manage to have a fair show in the beds. *Alternantheras* would not exist in the natural soil here, and to make as free with the use of peat as is desirable would prove an expensive matter.

The yearly decay of leaves in a natural way as described by "H. D." (page 279) make a fairly good substitute for peat for a variety of plants. In the beds devoted to carpet plants we would wish for nothing better than this annual collection of leaves decaying one upon another. When possible we mulch the surface of the herbaceous borders in the autumn with a compost mainly consisting of leaf soil, and which, lightly forked in in the spring, renders the surface in a capital condition the whole of the summer, not only for the benefit of the occupants, but for the ease with which hoeing is accomplished. Alpine plants on the rockery, too, we treat in a similar manner as to the mulching, and that it is beneficial the following season's growth amply testifies.

Then, again, with regard to shrubs and certain species of Conifer, were it not for a free use of leaf soil we should get along badly with the growth of these plants. For instance, the various *Retinosporas*, Hemlock Spruce, and several *Thuias* would scarcely exist in our natural soil. By freely employing leaves partly decomposed we are enabled to reduce the cost of *Rhododendron* cultivation fully one-half of what it would come to were peat even of a poor character solely depended upon. Our calcareous soil would mean a speedy death to these charming plants if used in the smallest quantity for them to grow in, it being a well-known fact that lime in any form is certain death to American plants.—E. M.

### AURICULA HOUSES.

A CORRESPONDENT, "M.," asks a question or two about the culture of Auriculas under glass. If a house is to be built expressly for them, I would have a span-roofed one, with north and south run, and placed where late and early sunshine could have full play upon it; the glass to come down to the level of the pots, and the ventilation to be very thorough in both the roof and sides. "M.'s" principal inquiry is, Whether Auriculas, for show purposes, can be grown in the same house all the year round? and I can answer that they may, even if the house has a full south aspect, and is of a lean-to description. I would not, however, choose one of this sort as an ideal home for the Auricula; nevertheless, the two houses in which I grow mine are of this aspect and formation, in lengths of 20 and 30 feet, and the glass comes down to the level of the pots. The plants on the back stages are some 6 feet from the glass in the rows most distant from it, but they approach nearer and nearer till the foremost on the front stages are pretty close to it. I find no perceptible difference in the growth of the plants at the back or front except this, that those nearest the back wall will turn slightly to the light; but this any plant will do, even in the open air, if there is a wall close behind it. The Auriculas, even on the front stages, will show a tendency to do this, and will incline to the point where the light is brightest in any kind of house. But the effect is easily corrected by occasionally turning the plants round. I have ventilation enough for anything in the lean-to's—for all the sides and fronts open from end to end—and there are long wide ventilating lights in the roofs with only 2 feet of solid glass between.

I did not build these houses expressly for Auriculas, but for several years past my Auriculas have never been removed from them at any season of the year, except some of the seedlings which

have to be planted out in the open ground till they attain to a large or flowering size, when they are potted and brought into the house to stay there if they are worth their room.

I would, however, particularly state that Auriculas in a house of sunny aspect all the year round will require distinctly more attention during summer than they would if from early in May to early October they could have a house with a cool exposure. Granted that care is constant and wise enough in either case, I find that they will do well in either situation, and what may seem rather curious is that I have quite as little autumn bloom in my south aspect houses as I used to have in my north aspect frames.

But situations, like circumstances, alter cases. I have never grown Auriculas out of Yorkshire. In a moorland and mountain air, and in a hotter and drier district, I should prefer having summer quarters for them in a north aspect house.

Points on which Auriculas will require greater watchfulness in houses of a sunny aspect are as follows:—The plants will want shading during bright sunshine from the middle of March till early in October. I do not believe in "permanent" shading for anything. A dull day is the very sunshine of shade-loving plants, and it is too bad to rob them of their richest light. Here the Auriculas are the near neighbours of the cool Orchids, and it is not much extra work to run the shading down over the hardy pets when protecting the complexions of the tender ones.

With Auriculas, as with Orchids, it is a great gain in coolness to have the shading material kept by some easy contrivance from touching the glass by a foot or so. Of course, in bright weather Auriculas must have every inch of ventilation on, unless there be also a high or drying wind. In such case the ventilation should be chiefly in the roof, taking care that the shading material is free of the glass. Green fly, always troublesome with Auriculas, is no less so in a sunny aspect, and will require much persecution, especially in a spell of hot weather. Thrips I have never seen on the Auricula in a cool or northern aspect; but ever since I once saw an attempt made by them on a plant here and there in my houses, I have during summer often added tobacco liquor with a little softsoap, which gives additional efficacy to the water with which I frequently syringe the plants in dry weather through the summer. Thrips attack the upper surfaces of the leaves, and both the inner and outer ones of the young hearts, and so are open to destruction from above by these means. But though syringing with medicated waters will destroy also all green fly reached by it, there are so many that will hide under the broad leaves that I have always found it necessary to dip Auriculas to free them completely from aphids.

Care in ventilation, in shading, in watering, in cleansing, are four things that require special looking to, if Auriculas are kept all the year round in a house with a southern aspect. But of these four points, there is, after all, only one (shading) which is not part also of the treatment of the Auricula under any circumstances.

As for houses "expressly built for" such and such plants, there is not so very much in it! I expect that plant houses change their trade and tenants much as they do shops, and other human tenements. By little internal arrangements for greater heat or coolness, and the display of what he professionally produces, the butcher may follow the baker, and the candlestick maker may come after them both. None of my plant houses were "built expressly for" anything. They have all changed tenants. The present Auricula houses used to be the home of my Peach and Nectarine pyramids in pots, and Fig trees dwarf in stature. These afterwards removed to the Tulip house, when the Tulips had done with it in June, and with the side lights let down, duly ripened their fruits, afterwards wintering in the open ground. One of my span-roof houses was originally a seminary for young Auriculas; for seedlings were brought up there, but now some of the cool Orchids have it, and the seminary is under plain frame lights. So also the East Indian and intermediate Orchid house is a mere continuation of a commonplace-looking structure that I put up for odd things in the way of curious or interesting tropical plants. Originally there was scarcely an Orchid in it, and now there is little else.

I have done without much *expressiveness* in the way of horticultural building. It was robbery by rats, who seriously took to stealing my Auriculas out of frames, that led me to think of the greater security of a house for them, and to make an experiment which I thought would both answer for the plants, and be much more convenient for the cultivator. Mr. Ben Simonite and I started together to grow Auriculas in houses. Of the plan and its safety some doubted, but I believe we were the first to try it.

Perhaps I may just briefly state this, in case the question should ever, at some far-distant day, be thought of floricultural interest when none could answer it for certain. Just as, in one of the late



Albert Smith's amusing books we find that another fact of momentous import has been lost to the world through being no longer traceable to its origin—namely,

"Mont Blanc is the monarch of mountains,  
They crowned him long ago;  
But who they got to put it on  
We don't exactly know!"

—F. D. HORNER, *Burton-in-Lonsdale*.



#### LIST OF SHOWS.

THE following are the dates of the chief Chrysanthemum Exhibitions to be held during November of which we have received schedules and advertisements:—

Thursday, Nov. 12th.—National Chrysanthemum Society, Royal Aquarium, Westminster.  
Thursday, Nov. 12th.—Birmingham, Bournemouth, Northampton, Swansea, and Croydon.  
Thursday and Friday, Nov. 12th and 13th.—Teddington, Wimbledon, and Ware.  
Thursday, Friday, and Saturday, Nov. 12th, 13th, and 14th.—Belfast.  
Friday, Nov. 13th.—Cheshunt and Hitchin.  
Friday and Saturday, Nov. 13th and 14th.—Eccles, Leicester, Sheffield, Tooting, and Monmouth.  
Tuesday and Wednesday, Nov. 17th and 18th.—Liverpool, Salisbury, Twickenham, and Diss.  
Wednesday and Thursday, Nov. 18th and 19th.—Spalding.  
Wednesday and Thursday, Nov. 18th and 19th.—Hull and Rugby.  
Wednesday, Thursday, and Friday, Nov. 18th, 19th, and 20th.—York.  
Thursday, Nov. 19th.—Wantage.  
Thursday, Friday, and Saturday, Nov. 19th, 20th, and 21st.—The Scottish Horticultural Society, Edinburgh.  
Friday and Saturday, Nov. 20th and 21st.—Stirling, Chorley, Bolton, and Stockport.  
Saturday, Nov. 21st.—Batley.  
Wednesday and Thursday, Nov. 25th and 26th.—South Shields.

#### CALLS AT CHRYSANTHEMUM NURSERIES.—ST. JOHN'S, PUTNEY.

CALLING here on the morning of the 2nd inst. I was fortunate in finding that veteran grower, Mr. Geo. Stevens, at home and busy amongst his favourites preparing for contest, but he was still sufficiently at liberty to extend a hearty greeting and warm welcome to a brother florist and Mum grower, and to show all he has in plants and flowers. Our friend G. S. is, as is well known, the hero of many a close contest in the show tent, and judging by the appearance of his plants and flowers he is likely this year to add fresh laurels to his crown. He has a grand lot of plants both for grouping and cut flowers in the best possible condition, very strong, with large dark green foliage, and large, fresh, very brightly coloured flowers. E. Molyneux, W. H. Lincoln, Avalanche, Wm. Holmes, Elaine, &c., are represented by great banks. The two first named are remarkably fine, better I have never seen. For late flowering great batches are grown of Ethel, Yellow Ethel, Golden Gem, and Princess Blanche. The last named is a favourite with Mr. Stevens, and he grows it finely. Incurved flowers are very fine, especially the Princess of Wales family. I noticed also some grand flowers, deep, massive, and very brightly coloured, of Sunflower (Japanese). Unfortunately the damp fiend has taken possession of many of his very best flowers, and is doing much mischief.

Chrysanthemums are not alone the flowers our friend does well, as is instanced by a long span-roofed house filled with a grand display of *Coelogyne cristata* and *Cypripedium insigne*, forty to fifty very large specimens of each for supplying cut flowers at Christmas in the most robust health, and all showing promise of a grand lot of flowers.

#### MR. N. DAVIS'S NURSERY, CAMBERWELL.

Many a pilgrimage is made to these well-known Chrysanthemum grounds by exhibitors and cultivators in quest of new varieties, and this season, at least, such pilgrims will not return unrewarded. Mr. Davis has a very fine collection of novelties now in bloom, both English and foreign raised, including many good seedlings raised by himself and flowering now for the first time. Vivian Morel, probably the best of last season's new continental varieties, is represented by some score or more plants carrying grand exhibition flowers. There will certainly be a great demand by exhibitors for this fine variety when it is more known. Comte F. Lurani is a very promising new Japanese of French origin which Mr. Davis thinks will also become a popular exhibition variety. The bloom is large, reflexed, with broad, somewhat drooping petals; colour a very pleasing bright pink, each petal edged with a broad stripe of light flesh colour. May Tomlin is a larger, brighter, and much improved Princess of Wales, a sport from that variety, and

will be in demand by exhibitors. Florence Davis is represented by some fine flowers. It is a grand addition to our best white varieties, and might fairly be termed a white Sunflower, as it has much of the build and character of that popular variety. Miss Haggas Improved is a sport from Miss Haggas of a much deeper and more decided tone of yellow. Miss A. Hartzhorn is a grand white, very pure in colour, and with fine broad waxy petals. It is a deep full flower, fine for exhibition, and very distinct. W. K. Woodcock is a seedling from Val d'Andorre, and similar in colour to that variety. It is an immense, deep, and very full flower, and will make a fine exhibition variety. The habit, like its parent, very vigorous but dwarf.—W. K. W.

#### THE WALKER CHRYSANTHEMUM CUP AND TUBE.

DR. GEORGE WALKER sends an illustration of this invention that was referred to on page 363 of our issue of the 29th ult. The appliance has been exhibited before and commended by the National Chrysanthemum

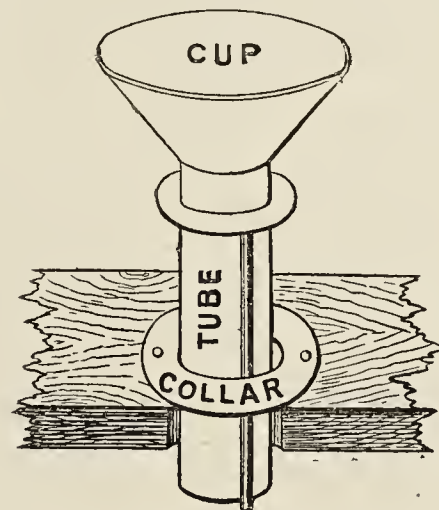


FIG. 79.

Society, and at the Crystal Palace. A sharp twist of the tube in the oval collar causes the wire to bite against the edge, and thus the blooms are fixed in any desired position.

#### ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 10TH.

It was not unnatural perhaps that the Drill Hall should present a somewhat bare appearance on this occasion in view of the numerous Chrysanthemum shows. The duties of all of the Committees were exceptionally light.

**FRUIT COMMITTEE.**—Present: Messrs. P. Crowley (in the chair), J. Lee, R. D. Blackmore, G. Bunyard, G. W. Cummins, J. Willard, C. Ross, W. Warren, T. J. Saltmarsh, G. Cliffe, G. Wythes, J. Hudson, G. Reynolds, Q. Lane, H. Balderson, G. Norman, J. Smith, Harrison Weir, W. Bates, and Dr. Hogg.

A collection of Pears came from the Society's garden at Chiswick, and there were sundry other dishes, Messrs. W. Paul & Son receiving a vote of thanks for a small collection of Apples and Pears. A cultural commendation was awarded to Mr. Myles, gardener to Lady Hutt, Apple Towers, Ryde, for a new Grape named Appley Towers, Gros Colman × Alicante. A first class certificate was awarded to

*Apple Chelmsford Wonder* (Messrs. Saltmarsh & Son).—A handsome and promising late culinary variety, large, skin clear yellow tinged with red on the more exposed side. An award of merit was made to

*Apple Atalanta* (Mr. C. Ross, gardener to Lieut.-Col. Eyre).—A bright yellow variety tinted with crimson. It is from Scarlet Nonpareil, and is said to be a strong and healthy grower and good bearer.

A collection of Carrots came from Chiswick, and Messrs. Dobbie and Co. received a bronze Banksian medal for Leek Dobbie's Champion and Parsley Dobbie's Selected, the former having fine stems blanched from 12 to 15 inches.

**FLORAL COMMITTEE.**—Present: Messrs. W. Marshall (in the chair), B. Wynne, H. Herbst, H. Cannell, J. Bennett Poë, H. H. D'Ombraïn, C. E. Pearson, W. Watson, C. Jeffries, T. Baines, C. T. Drucry, G. Paul, and John Fraser.

The exhibits here were very few. Messrs. Carter & Co. exhibited stands of new Chrysanthemums, and Messrs. Cannell & Sons staged blooms of Louis Boehmer, for which they received a Banksian medal. A collection of well-flowered Chrysanthemums came from the Royal Gardens, Kew. Messrs. Dobbie & Co., Rothesay, exhibited a charming stand of striped Marigolds. A dwarf, compact-growing *Richardia* named *æthiopica compacta* was sent by Messrs. Paul & Son, Cheshunt. From the Botanical Gardens, Cambridge, came *Porana paniculata*, an Indian plant now flowering for the first time, bearing loose clusters of highly perfumed flowers, and *Aristolochia grandiflora*. Mr. G. Wythes, Syon House Gardens, exhibited *Bignonia venusta*, and Messrs. Veitch and Sons Java *Rhododendrons* (vote of thanks). Mr. Smith, gardener to R. E. Warburton, Esq., Northwich, sent *Croton Mrs. Ussher*. The following received first-class certificates:—

*Stapelia gigantea* (Mr. C. Wood, gardener to Lord Hylton, Mersham).—A small specimen of the giant Carrion Flower, bearing two large expanded blooms.



*Gerbera Jamesoni* (Cambridge Botanic Garden).—A brilliant vermilion coloured species; the flowers gathered from the foot of a south wall overhung by glass.

*Rhopaloblaste hexandra* (Messrs. B. S. Williams & Son).—A valuable addition to the list of decorative Palms, the leaves finely divided and graceful.

The following received awards of merit :—

*Chrysanthemum Miss Bella Wilson* (Messrs. J. Carter & Co.).—An incurved of the Violet Tomlin type, deep rose suffused with grey.

*Chrysanthemum Holborn Rose* (Messrs. Carter & Co.).—A Japanese, with large well-formed bright rose flowers.

*Aster grandiflora* (Messrs. Barr & Sons).—Large deep violet-blue flowers, valuable because late.

*Chrysanthemum Col. W. B. Smith* (Messrs. Cannell & Sons).—A very distinct Japanese of the R. Cannell type; colour old gold tinged with bronze.

A silver Banksian medal was awarded to Mr. Wythes for a group of Chrysanthemums, and prizes for plants went to Messrs. E. Vince, Highgate Cemetery, and J. Weston, gardener to D. Martineau, Esq., Clapham Park.

ORCHID COMMITTEE.—Present: Messrs. H. J. Veitch (in the chair), H. M. Pollett, Hugh Low, E. Hill, F. Sander, H. Ballantine, Henry Williams, J. O'Brien, T. B. Haywood, A. H. Smee, and Dr. Masters. The display of Orchids was the most interesting in the hall. Mr. F. Sander exhibited *Cypripedium Malyanum* (Crossianum × Spicerianum). Messrs. B. S. Williams & Son, Upper Holloway, had a choice collection, including seedling *Cypripedium Adonis*, *C. Scegerianum*, *C. insigne aureum*, *C. punctatum violaceum*, *C. Dauthieri*, *C. Arthurianum*, *C. insigne albe-marginata*, *C. Morganiae*, *Cattleya Warocqueana*, and *C. labiata vera*. Messrs. Paul & Son, The Old Nurseries, Cheshunt, had a very interesting collection of *Cypripedium insigne* in varieties. Mr. H. M. Pollett showed *Cattleya labiata vera* and varieties of *C. Warocqueana*. The following received first-class certificates :—

*Cypripedium insigne Sanderæ* (Baron Schröder).—Petals and lip greenish yellow, dorsal sepal broadly margined with ivory white.

*Phaius × maculato-grandifolius* (Messrs. Veitch & Sons).—A garden hybrid. Sepals and petals bronzy salmon, lip brownish chocolate, throat veined with the same colour.

*Dendrobium Lecanum* (Messrs. F. Sander & Co.).—A new species. Flowers borne at the summit of long growths, sepals and petals white suffused with soft magenta, lip and throat bright velvety purple.



EVENTS OF THE WEEK.—The rush of the Chrysanthemum Shows is abating somewhat, but there are still some important events to be recorded. To-day (Thursday) the Aquarium, Birmingham, Bournemouth, Northampton, Swansea, and Croydon Shows will be closed, and Shows will be opened at Teddington, Wimbledon, Ware, and Belfast. On Friday, November 13th, Shows will be held at Cheshunt and Hitchin, Eccles, Leicester, Sheffield, Tooting, and Monmouth. In the approaching week exhibitions will be held on Tuesday and Wednesday, November 17th, at Liverpool, Salisbury, Twickenham, and Diss. Messrs. Protheroe & Morris announce several sales of bulbs and Orchids for the current week, amongst them being a sale of choice Orchids from Messrs. F. Horsman & Co., Colchester, on Friday, November 13th.

COUNTY COUNCIL APPOINTMENT.—Mr. Lewis Castle of the *Journal of Horticulture* and Hon. Secretary of the British Fruit Growers' Association, has been appointed chief instructor in horticulture by the Technical Education Committee of the Hampshire County Council. Mr. W. Palmer, late gardener to W. F. Hume Dick, Esq., has also been engaged in the same county, and the position he vacates at Thames Ditton House, Thames Ditton, has been filled by his former foreman, Mr. Waite.

PRESENTATION TO MR. OWEN THOMAS.—We learn that Mr. Owen Thomas was presented with a handsome silver-plated inkstand and a pair of candlesticks previous to his finally leaving Chatsworth with his family. This was subscribed for by the men (sixty in number) who worked under him, for the past seven and half years. This expression of respect and good feeling must have been most gratifying to Mr. Thomas, who has now assumed his new duties at Frogmore.

AT the ordinary meeting of the ROYAL METEOROLOGICAL SOCIETY, to be held at 25, Great George Street, Westminster, on Wednesday, the 18th instant, at 7 P.M., the following papers will be read:—"Report on the International Meteorological Conference at

Munich, September, 1891," by Robert H. Scott, M.A., F.R.S.; "On a New Self-recording Rain Gauge," by W. J. E. Binnie, B.A., Student Inst. C.E.; "On Wet and Dry Bulb Formulæ," by Prof. J. D. Everett F.R.S.; "Results of Meteorological Observations made at Akassa, Niger Territories, May, 1889, to December, 1890," by Frank Russell, F.R.Met.Soc.

BIRMINGHAM CHRYSANTHEMUM SHOW.—The great prize for forty-eight cut blooms at Birmingham Show, which opened yesterday (Wednesday), was won by Mr. Parker, Impney Hall, Droitwich, Mr. Cox, Elm Hall, Wavertree being second; Mr. Coombes, Himley Hall Gardens, Dudley, third; Mr. Gould, Bromborough, fourth; Mr. Blair, Trentham, fifth, and Mr. Townsend, Mytton Hall, sixth. There were sixteen competitors.

GARDENING APPOINTMENT.—Mr. W. Hunt, gardener to the Rev. H. Trotter, Ardington Vicarage, Wantage, Berks, has been appointed to the charge of Sir William Pink's garden at Shrover Hall, Cosham, Hants.

AN ATTRACTIVE FLOWER BED.—One of the most pleasing combinations of colour we have had this season was composed of blue Cornflower and white Mallow. The latter being the taller was planted in front of a long row of Weigela rosca and amabilis mixed, the Cornflower being planted in front of the Malva. Blue and white always associates harmoniously, no matter what flowers are employed. In our case the outer branches of the Mallow were allowed to mingle with the Cornflower with good effect too. Any two flowers which make such an agreeable contrast in the garden are at once appreciated.—E.

MR. JAMES HORNBY, The Gardens, Heslington Hall, York, writes:—"It may interest some of the readers of your valuable paper to learn that there is in the gardens here a specimen of the AGAVE AMERICANA VARIEGATA now in flower. The spike was first noticed early in the month of June whilst the plant stood outdoors. It has attained the height of 19 feet, has twenty-two side growths, containing some 1500 of its greenish yellow flowers. The first flowers opened five weeks ago, and there is still a quantity to open. This noble flower spike is not without its disadvantages, as a portion of the roof of the conservatory wherein it is growing has had to be made higher to enable it to fully develop."

OPEN-AIR TOMATOES AT NASH MANOR.—While on a visit to this old-fashioned but attractive place a short time ago I was surprised to see the crop of Tomatoes growing on the fruit walls there. The plants were trained on a wall facing south between such trees as Peaches, Nectarines, Apricots, &c. They were about 4 feet in height from the ground, completely laden with large even fruits of the varieties Laxton's Open Air, Large Red, and Wheeler's Prolific. Some of the latter were of great size. Every plant had three leaders from the ground, with, I should say, about 8 to 10 lbs. of fruit on every stem. The leaves were kept continually cut away to admit of every ray of sun to the fruit. They certainly reflect great credit on the enterprising gardener, Mr. Tebby.—J. D.

BOUVARDIAS AT HENBURY HILL.—When paying Mr. Smith of Henbury Hill a visit some few weeks since, I remarked the fine Bouvardias he had just lifted and potted from the garden. They were great plants, full of vigour and health, and when in flower must be well worth going many miles to see. I was a few years ago in favour of keeping them in pots until I first saw Mr. Smith's, when I was at once convinced that the planting-out system was far the best, and since then I have practised it with success. If more followed the practice noted in the *Journal* some months past, I am sure more would have fine healthy Bouvardias than is the case at the present time. The culture is simple. After potting, the plants are placed in a cold frame, and many of the finest specimens were only placed on the shady side of a greenhouse. A few miles distant, at Eastwood Park, Mr. Lippiatt adopts the same plan with equal success. I noticed there particularly fine specimens of Bouvardia Humboldtii, some of them masses of beautiful snow-white flowers. Anyone wishing to have fine plants, plenty of flower, and a long continuance, should try the planting-out system in the way already explained.—W. COATES, Darnhall Hall.

IN the *Revue Agricole*, published in Mauritius, M. A. Daruty de Grandpré gives an account of his attempts to raise SUGAR-CANE FROM SEEDS. The seeds were sent from Barbados by the Governor in March, 1890. M. de Grandpré planted them with the greatest care, and after five days was fortunate enough to obtain five minute seedlings out of the hundred seeds used. The young plants he raised did not all



prove equally vigorous, and he was able to save only one, which, at the time when his report was written, had formed a fine clump of twenty shoots with long ribbon leaves. "I believe," he says, "that we may with reason cherish the most sanguine hopes from the propagation of Sugar-cane from seeds—more especially if we try an intelligent system of cross-fertilisation of the varieties we possess—rather than by planting cuttings, which maintain without appreciable alteration the respective characteristics of the parent plants. Thus we shall be able to supplement the weak points in our best varieties of Sugar-cane by crossing them with others which are remarkable for the qualities it is intended to infuse into them, and we shall moreover obtain, by a process of selection, a cane rich in saccharine matter, which will enable us to compete successfully against the highly improved sugar-beet."—(*Nature*.)

— **DAHLIAS FOR CUTTING.**—Having observed in many gardens that no Dahlias are grown, I wish to call the attention of readers to the fact that where large quantities of cut flowers are required I would advise gardeners to grow plenty of the above, especially the Pompon and Cactus varieties. The show varieties are very handsome, but except for exhibition and large vases they are not so useful for cutting as the others. I have this year for the first time grown some of them, and am so satisfied that I intend to grow many more another year. Among the Pompons I have a pure white variety known as White Aster, and it can be used in every possible way as a cut flower, for buttonholes, bouquets, wreaths, &c., and I must say I do not think there is a better or more useful outdoor summer flower grown for the purposes above mentioned. Some time ago I witnessed a fine show of Dahlias of all classes at Messrs. Keynes, Williams & Co. of Salisbury, and they have this year some splendid new varieties, especially among the Pompons and Cactus. This year they planted out many thousands of seedlings, so that out of such a number there will be some good sorts for next year. Among the Cactus varieties I observed Kynereith, Baron Schröder, Catherine, Lancelot, and Viscountess Folkestone as being very fine in colour. Also among Pompons, Phoebe, Leila, Whisper, Achilles, and Darkness. Among show varieties, Queen of the Belgians and Hon. Mrs. P. Wyndham and W. H. Williams are splendid varieties.—**VISITOR.**

— **POTATO DISEASE EXPERIMENTS.**—We have a letter from Mr. Whitehead Cousins for which it is impossible to find room this week. He states he is a Potato dealer, middleman, and experimentalist, and asks who our reporter of the Reading experiments is. He is neither a "dealer nor a middleman," but a grower of Potatoes of many years' experience both for home use and commercial purposes in more than one district. Another letter before us suggests that Mr. Whitehead Cousins has in view "the floating of a company for sprinkling Potatoes with copper." Is this so? We know it has been effective in some experiments, but not in others. It is right that both failures and successes be recorded. The Potato supply has been both good and cheap during the past few years. It is only during occasional wet summers that anti-disease dressings will be needed. In a very large collection of varieties, where the Bouillie has been used under scientific authority for public instruction, no benefit whatever will be seen to have resulted when the report is published.

— **THE Times** recently published an interesting article on "OUR POSITION WITH REGARD TO RAINFALL," compiled from the statistics published by Mr. Symens and the Meteorological Office. The rainfall during the month of October was so heavy that in many places the amount up to the morning of the 18th was in excess of the average for the whole month. In London this excess amounted only to 0.3 inch, while at Valentia Island and at Stornaway it amounted to nearly 2 and 3 inches respectively, and the amount which fell during the next few days has greatly increased the excess. But for the ten years ending with 1889 the rainfall over the United Kingdom differed only by 1 per cent. from the average of the last fifty years. The values for the present year, up to the 18th instant (as shown by the last Weekly Weather Report then published), were rather in excess of the average over the southern, midland, and western parts of England, and the north of Scotland, while in the remaining districts there was still a deficiency. For the whole period since the end of 1889 there was only one district, viz. Scotland (N.), in which the total fall was in excess of the average. In Scotland and the midland and south-western counties of England, the deficiency was still very large. The question is asked—Are we likely to have in the years immediately advancing more or less rain than during the last few years? While the question cannot be answered with absolute confidence, the grouping of years into decades or other regular periods eliminates most of the non-periodic variations, and shows whether

any secular alterations are taking place. There is no doubt that since 1887, at all events, the rainfall over England has been much below the average; and a consideration of all the facts leads to the conclusion that such a period of scarcity is very likely to be followed by one of abundance, and that the coming few years will probably be more rainy than those recently experienced, although possibly the increase will not occur in the summer months—at a time when it would be most noticed.

— A GREEK gardener lately expressed the opinion that ORANGES, FIGS, OLIVES, and GRAPES grown in Australia are inferior to those grown at Smyrna and Athens. This having been brought to the attention of the Department of Agriculture, New South Wales, letters were addressed to the British Consuls at Naples and Marseilles asking for a consignment of the best varieties of Grapes, Figs, and Olives grown in Italy and France. On receipt of these cuttings, experiments are to be carried out at the most suitable of the experimental stations about to be established throughout the colony, with a view to the propagation of the finest varieties of the respective fruits. With the same object in view application has been made to Mr. Hardy, of South Australia, for a number of cuttings of various Vines he has cultivated, and to Sir Samuel Davenport, of Beaumont, South Australia, for cuttings of the Olive and Fig trees grown by him. The whole of these cuttings will go to form the standard collections of all the different kinds of fruit which it is intended to establish at each of the experimental stations.

#### NATIONAL CHRYSANTHEMUM SOCIETY, ROYAL AQUARIUM.—NOV. 10TH, 11TH, AND 12TH.

THE National Show of the present year, which, as may be gathered from the dates, extends over to-day (Thursday), may be classed as about on an average with the majority of its predecessors. Cut blooms are extensively shown, and the general quality is excellent. Groups are little if at all below the usual strength, specimen plants about the average. The awards in the principal classes were as follows:—

**Groups.**—The first prize for a group of Chrysanthemums over a space of 100 feet fell to the Palace victors, Messrs. Reid & Bornemann, Sydenham, who have come to the front very rapidly this season. The arrangement was a very handsome one, the plants being healthy, and carrying fine blooms admirably displayed. This firm greatly strengthen their arrangements with dwarf plants well clothed with foliage, and bearing very large flowers. Being leafed from top to bottom no bare stem is shown at the front of the group. A few of the most telling varieties were Stanstead White, Etoile de Lyon, E. Molyneux, Avalanche, Sunflower, Mons. Bernard, and Val d'Andorre. Mr. Geo. Stevens, St. John's Nursery, Putney, was second with a group of taller plants, well arranged in his well-known style; and Mr. N. Davis, Camberwell, was third with an arrangement somewhat in the style of the first prize one, but not carrying such good flowers. Messrs. Reid & Bornemann also won with a smaller group of dwarf plants.

**Cut Blooms.**—The principal class for incurved was that for forty-eight blooms, and Messrs. W. & G. Drover, Fareham, followed up their Palace success by securing the first prize. Their blooms were remarkably fine, being large, solid, and admirably finished. The varieties were as follows—Back row: John Lambert (2), Empress Eugénie, Lord Leicester (2), John Doughty (2), Queen of England, Empress of India (2), Alfred Salter (2), Golden Empress (2), Violet Tomlin, and Queen of England. Middle row: Mrs. S. Coleman (2), Lord Wolseley, Princess of Wales (2), Nil Desperandum (2), Miss Haggas (2), Violet Tomlin, Jeanne d'Arc, Princess of Teck, Robert Cannell, Mrs. Heales, Lady Carey, and Beauty. Front row: Lady Hardinge, Jeanne d'Arc, C. Gibson (2), Mrs. N. Davis (2), Lord Wolseley, Lady Dorothy (2), Hero of Stoke Newington, Mrs. W. Shipman (2), Princess of Teck, Mrs. Heales, Lady Carey, and Empress Eugénie. A few of the front row flowers were somewhat weak. Mr. Doughty, gardener to Mrs. Tomlin, Cranbrook, was second, but some distance in the rear, his flowers running somewhat small. They were well finished and in good condition, a grand bloom of Mrs. S. Coleman, Empress of India, Princess of Teck, Golden Empress, and Queen of England being the best. The third prize went to Mr. R. Petfield, gardener to A. J. Thornhill, Esq., Buckden, for a good, but somewhat uneven, stand; the fourth to Mr. W. G. Ray, Teynham, Sittingbourne; and the fifth to Mr. Agate, Havant. Mr. C. W. Knowles, gardener to Mrs. Egerton, Rochampton, who quite swept the board at Wandsworth, demonstrated his ability still further by winning in the class for twenty-four. His flowers were small, but very neat and fresh. Messrs. Myers, gardener to the Earl of Sandwich, Hinchbrook, Huntingdon, and A. Ives, gardener to E. C. Jukes, Esq., High Barnet, were second and third. Mr. Shoesmith, gardener to M. Hodgson, Esq., Shirley, won with twelve, one of the best stands in the Show, the flowers being large and substantial; Mrs. S. Coleman, Princess of Wales, Violet Tomlin, and Mrs. Heales were splendid. Mr. Douglas, gardener to Mrs. Whitbourn, Ilford, was second with smaller, but well-finished, flowers; Mr. W. H. Lees, gardener to the Duchess of Montrose, Newmarket, was third.



There were some grand flowers in the Company class. The Havant Horticultural Society, represented by Messrs. Agate, Fuller, Penford, Hoskins, and Payne, won the challenge shield with heavy blooms, the Japanese being particularly fine. The incurved were well finished, but some small. The St. Neots Chrysanthemum Society were placed second, very little in the rear, and the Wimbledon Horticultural Society third.

Japanese were magnificently shown. C. E. Shee, Esq., The Elms, Foots Cray, staged a grand forty-eight, and defeated a formidable lot



FIG. 80.—CORDON GOOSEBERRY.

om Messrs. W. & G. Drover. His varieties were as follows:—Back row: Etoile de Lyon (2), Mrs. Jameson, Mons. Bernard (2), Boule d'Or (2), Mrs. E. W. Clarke, Stanstead White (2), W. H. Lincoln, Condor, M. Marrouch, Mrs. C. W. Wheeler, E. Molyneux, and Danae. Middle row: Gloriosum, A. H. Neve, Sunflower, E. Molyneux, R. Brocklebank (2), J. Délaux, Meg Merrilies, W. W. Coles (2), M. J. M. Pigny, Criterion, Vivand Morel, J. Délaux, Mrs. Jameson, and Condor. Front row: Puritan, C. Underwood, Mrs. J. Wright, Sarah Owen, A. H. Neve, Gloriosum, Madame J. Laing, Puritan, Mrs. J. S. Fogg, Lilian Bird, Soleil Levant, Meg Merrilies, M. Marrouch, Annie Clibran, Sunflower, and Mdle. Lacroix. Messrs. W. & G. Drover also had a magnificent stand, the flowers being of great size, depth, and substance. The judging was somewhat severely criticised here. Both first

and second were certainly exceptionally fine stands. The third prize went to W. H. Fowler, Esq., Taunton, and the fourth to Mr. H. R. Brown, gardener to E. Barclay, Esq., Roydon, Essex, both having excellent stands. Mr. Agate won with twenty-four; a good stand, Vivand Morel, Madame Baco, Lilian Bird, and A. H. Neve being the best blooms. Mr. H. R. Brown was second, very little in the rear, and losing only by a little weakness in his front row flowers. Mr. W. H. Fowler was third.

The twelves brought a large number of stands, many being very fine. Mr. Ocock, gardener to Mrs. M'Intosh, Romford, won with a splendid stand, Vivand Morel, Etoile de Lyon, Mrs. Falconer Jameson, Sunflower, and Fair Maid of Guernsey being grand flowers. Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., was second, and Mr. Doughty third, other prizes going to Mr. Douglas, Mr. J. Hughes, and Mr. W. H. Lees.

Some splendid flowers were shown in the one variety class. Mr. Myers had a very fine six of Golden Empress; and Mr. J. Shaw, gardener to Lord Clinton Hope, a beautiful stand of Avalanche, but space will not admit of details. Japanese reflexed were finely shown by Mr. Long, gardener to E. P. Oakshott, Esq.; and Mr. R. C. Nottcutt, Ipswich. The best stand of reflexed came from Mr. Myers; Messrs. G. Carpenter, gardener to Major Collis Browne; and Mr. M. Russell, gardener to Dr. Lewis, Henfield, following. Large Anemones were splendidly shown by Mr. W. Green, gardener to Miss Wyburn; and Mr. Ives. The former had an exceptionally beautiful stand. Mr. Myers had the best Anemone Pompons, and Mr. Turk, gardener to T. Boney, Esq., and Mr. C. J. Salter, gardener to T. B. Haywood, Esq., had some excellent Pompons.

Specimen plants were good. Mr. Brooks, gardener to W. Reynolds, Esq., J.P., won with six trained specimens, very fine plants; and Mr. D. Macdonald, gardener to J. G. Barclay, Esq., with standards. Pompons were shown in fine condition by Mr. J. Weston, gardener to Dr. Martineau. Mrs. Smith, Romford, and Mr. R. Potter, won with epergnes, and Messrs. Perkins & Son, Coventry, with table decorations. They had a very beautiful arrangement, as also had Mr. J. R. Chard. The Floral Committee had not finished their duties when our reporter left, but some promising novelties were shown, which may be referred to later.

Miscellaneous exhibits were extensive. Mr. H. J. Jones had a group of single varieties, which formed a very beautiful display, and also a large stand of new kinds. Messrs. Pitcher & Manda, the United States Nurseries, Hextable, Swanley, Kent, had a number of seedlings, several being markedly beautiful, as also had Messrs. Carter & Co. Mr. Owen, Maidenhead, had an attractive stand of new varieties. Messrs. Cutbush and Son, Highgate, had a display of miscellaneous plants. Messrs. Cannell & Sons, Swanley, had a large and beautiful display of Zonal Pelargoniums and Chrysanthemums. Messrs. Laing & Son of Forest Hill had a large display of cut Chrysanthemums and fruit. There were good exhibits of fruit from Messrs. Cutbush, C. Lee & Son, and Cheal and Son, and a fine display of vegetables.

On the evening of the first day a conference was held, at which Chrysanthemum sports were discussed, the Rev. Professor Henslow dealing with the matter from a botanical, and Mr. Norman Davis from a cultural point of view.

## KINGSTON CHRYSANTHEMUM SHOW.

NOVEMBER 10TH AND 11TH.

THIS renowned Society held its fifteenth annual Exhibition in the Drill Hall, Kingston, on the above dates, and although the National Society's fixtures were on the same days it lacked none of its former prestige, the hall was filled to overflowing, and a large space for extra tables at the ends was requisitioned to take the large number of exhibits. Groups of fresh, clean, and attractive Chrysanthemums brightened the sides of the hall. These, interspersed with miscellaneous groups, made a most charming picture, while in the front of the large orchestra thirty-six grand examples of specimen-trained plants were arranged. The large collection of fruit was also an important factor of the Exhibition. Ladies' table decorations and table plants, Primulas and berried plants, buttonholes, bouquets, and vegetables, assisted in making a grand and magnificent display, reflecting the highest credit in the matter of arrangements on Mr. Woodgate, the Hon. Secretary; Mr. John Drewett, the Chairman of the Committee; and their able coadjutors.

The chief interest of the Exhibition was as usual centered in the champion challenge vase, value 25 guineas, which makes the seventh the Society has offered for twenty-four incurved distinct and twenty-four Japanese, and which was won last year by T. H. Bryant, Esq., Juniper Hill, Dorking. This year six magnificent collections were staged, and the coveted honour fell to Mr. G. Carpenter, gardener to Major Collis Brown, Broad Oaks, Byfleet, for the following:—Incurved, reading from left to right—Golden Empress, Empress of India (good), Miss Violet Tomlin, Queen of England (very fine), Alfred Salter, Lord Alcester (very good), John Doughty, Golden Queen, Empress Eugénie, John Salter, Mrs. Heale, Amy Hoste, Jeanne d'Arc, Mrs. S. Coleman, Jardin des Plantes, Princess of Wales (very fine), Mrs. N. Davis, Lord Eversley, Baron Beust, Barbara, Miss M. A. Haggas, Nil Desperandum, Princess Teck, Mr. Brunlees. Japanese—Etoile de Lyon (fine colour), Avalanche, Stanstead Surprise, W. H. Lincoln, Condor, Mrs. F. Jameson, Baronne de Prailly, E. Molyneux (bright), Yellow Dragon, Madame



Baco, W. W. Coles, Puritan (good), Mrs. Wheeler, Stanstead White, Sunflower, Vivand Morel, Cesare Costa, Volunteer, Louis Boehmer, Criterion, Mdle. Laeroix, J. Délaux, Mr. A. H. Neve, and Monsieur H. Elliott. Mr. W. Meaux, gardener to A. Tate, Esq., Downside, Leatherhead, was a very fair second. Mr. C. Beckett, gardener to T. H. Bryant, Esq., Juniper Hill, Dorking, was a very good third. Mr. J. Quarterman, gardener to C. G. Smith, Esq., Silvermere, Cobham, was fourth, showing a grand Japanese, though neat but somewhat small, in the incurved class.

For twenty-four incurved Mr. W. Mease was deservedly awarded the first prize with fresh and even blooms of John Lambert, Empress of India, Golden Empress, John Salter, Queen of England, Mrs. Coleman (good), Violet Tomlin, Lord Alcester, Mrs. Heales, Empress Eugénie, Mr. Brunlees, Princess Teck, Mr. Norman Davis, Hero of Stoke Newington, Miss M. A. Haggas, Princess of Wales, Mr. C. Gibson, Cherub, Jeanne d'Arc, Barbara, Lady Carey, Mrs. Shipman, Lord Wolseley, and Lady Dorothy. Mr. C. Beckett took the second honours. Mr. E. Coombs, gardener to W. Furze, Esq., Roseland, Teddington, was a very good third, and Mr. T. Caryer, gardener to A. G. Meissner, Esq.,

Reeves, gardener to General Annersley, Oatlands Park, were placed first, second, and third respectively. For six Japanese of one variety, Mr. A. Filgate was placed first with six highly coloured large and fresh blooms of Etoile de Lyon; Mr. Carpenter took the second prize with Edwin Molyneux; and Mr. R. Cawte the third with the same variety. There were eight collections staged here.

In numerous other classes the competition was very strong, and each contained meritorious examples of cultural skill, notes respecting which we are compelled to hold over this week. Fruit was extensively shown, and the first prize collection of Apples from Mr. Tubb, gardener to B. W. Currie, Esq., Minley Manor, was amongst the finest we have seen, especially his dish of Peasgood's Nonesuch.

### CORDON GOOSEBERRIES.

GOOSEBERRIES grown in the form of cordons, and trained either to walls or improvised trellises, are most easily managed and productive.



FIG. 81.—A GOOSEBERRY FENCE.

Aldenhorne, Weybridge, fourth. There were five exhibitors in this class.

Eight collections were staged for twelve distinct incurved, and Mr. A. Filgate, gardener to the Duchess of Wellington, Burhill, Walton, was well ahead of the other competitors, having massive blooms of Empress of India, Golden Empress, Alfred Salter, Lord Alcester, Golden Queen of England, Violet Tomlin, Miss M. A. Haggas, Queen of England, Princess of Wales (fine), Mrs. Heale, Mrs. Coleman, and Jeanne d'Arc. Mr. R. Cawte, gardener to J. P. Robinson, Esq., was second, some of his blooms being remarkably neat; and Mr. H. Cawte, gardener to F. C. Moore, Esq., Lillesworth, Esher, and Mr. C. Slade, gardener to Lady Bowater, being placed third and fourth respectively.

For twenty-four Japanese, distinct, Mr. G. Trinder, gardener to Sir H. Mildmay, Bart., was awarded the premier honours with a fresh and well balanced collection, consisting of Sunflower (grand), Madame John Laing, Stanstead White, Sarah Owen, Volunteer, Mrs. F. Jameson, Madame C. Audiguier, Mrs. Wheeler, Avalanche (very fine), Louis Boehmer (magnificent), Mons. Elliott, Puritan, Boule d'Or, Etoile de Lyon, J. M. Pigny, W. W. Coles, Condor, Lady Lawrence (compact), Mons. Bernard, Maiden's Blush, Edwin Molyneux, Carew Underwood, Mrs. A. H. Neve, and Stanstead Surprise; Messrs. R. Cawte, W. Mease, and C. Beckett sharing the other awards in order of their names. There were seven grand collections in this class running each other very close.

Mr. A. Filgate was placed first for twelve even Japanese, a very even lot. Mr. G. Mileham, gardener to A. T. Miller, Esq., Leatherhead, took the second award; and Mr. John Thorne, gardener to A. E. Flood, Esq., the third; and Mr. H. Cawte the fourth.

With six Japanese Mr. J. Quarterman, Mr. C. Slade, and Mr. J.

What are known as Gooseberry hedges are occasionally seen in gardens as marginal lines to borders, and wherever established and properly managed, give much satisfaction. This method of Gooseberry culture is of the simplest, as both summer and winter pruning can be easily and expeditiously conducted, while the fruit is readily gathered. It has been found also that birds do not do half the damage to the leads of the upright cordons that they do to the ordinary bushes, the comparative immunity in the former case being probably the exposure of the depredators and the less convenient foothold than is found in the bushes. Be that as it may, the fact is as stated. By this method of culture very large crops of fruit can be had on narrow strips of land, and the practice is worthy of extension in appropriate positions in gardens.

Our illustration is the result of a sketch made at one of the meetings of the Royal Horticultural Society, where about a hundred fruiting cordons were exhibited by Messrs. James Veitch & Sons. The enlarged tree is an exact representation, and the fence such as would have been produced had the remainder been trained as shown in the engraving.

For the first few years the young trees can, if desired, be secured to neat stakes, and cross supports of wire, or even laths, provided at convenience. In one instance where laths had been used for a few years, the cordons assumed a rigid habit and became "self-supporting."



## CHRYSANTHEMUM SHOWS.

WATERFORD.—NOVEMBER 3RD.

THE annual Chrysanthemum, fruit, flower, and vegetable Show, with a limited class for farm produce, was held on Tuesday, November 3rd, in the Town Hall, under the auspices of the Waterford Horticultural Society. I was quite unprepared for the Chrysanthemum display, as even in the South of England it is hardly attempted to hold great shows on the first days of November, and this was admittedly a late season. The principal feature was the cup class; the best growers put forward their best blooms, and surprisingly fine some of them were.

A silver cup, value £5, was given to be competed for by Reymond De La Poer, Esq., Kilteronagle, well known as a patron of floriculture in the district, for twenty-four blooms, each different, half Japanese and half incurved. The Society added a second prize of £2 and a third of £1. The cup, after a close scrutiny between the stands of Captain De La Poer and Lord Besborough, Piltown Park, went to the former, the second to the latter, and the third to a new grower, Mr. Robertson, of the well-known firm of Robertson, Ledlie, Crawford & Co. A peculiarity of the cup stand was that it contained four alternate rows of Japanese and incurved. I cannot say that it struck me as being more effective—evidently the object—than the usual method of staging; but I will give the stand as staged. Top row: Japanese—Vivian Morel (splendid), Boule d'Or, Volunteer, W. W. Coles, George Daniels, and M. Bernard. Second row: Incurved—Emily Dale, Jeanne d'Arc (fine), Golden Empress, Empress of India, Lord Wolseley, and Alfred Salter. Third row: Japanese—Etoile de Lyon, Japonais (good), Condor (very large), E. Molyneux, Avalanche, and Sarah Owen. Fourth row: Prince Alfred, Lord Alcester, John Doughty, Queen of England, Jardin des Plantes, and Princess of Wales. Lord Besborough's stand contained in addition: Japanese—Mrs. Falconer Jameson, Fair Maid of Guernsey, Comte de Germiny, Mrs. John Laing, Peter the Great, Maiden's Blush, Stanstead White, Bouquet Fait, Source d'Or, and Soleil Levant; incurved—Nearly the same, as already named, with Alfred Salter, Nil Desperandum, Mrs. Shipman, Gloria Mundi, Lady Hardinge, and Violet Tomlin.

The groups were very effective, filling one side of the vast Assembly Rooms, and should be a feature in every show. The first prize went to C. G. Danny, Esq., May Park; and the second to W. G. D. Goff, Esq., Glenville; the former gentleman being equally successful for plants in pots and specimen plants—notable in the latter exhibits being plants of La Frisure, Hiver Fleuri, and Mrs. George Rundle, which it was evidently difficult to get forward in time, but were very floriferous. In the reflexed, Anemone, Japanese, and Japanese reflexed, Captain De La Poer repeated his success in the cup class. There was nothing new in the reflexed class, but all the Japanese Anemones were fine, particularly Sabine, Jeanne Marty (splendid), Grand Alvéole, Ratapoll, Madame Cabrol (splendid), and Nelson. The exhibits in the fruit, cut flowers, and vegetable classes were in some classes more numerous than hitherto, and in all of superior merit. A collection of farm produce of great size and merit was also a feature of the Show. Much credit is due the Committee under their difficult circumstances, but especially the Hon. Secretary and Treasurer, C. P. Bolton, Esq., J.P., Brook Lodge; and Mr. J. A. Power.—W. J. MURPHY.

WELLS.—NOVEMBER 3RD AND 4TH.

THE shows held by this Society have taken well from the first, and apparently there is no diminution in the interest shown in them, all classes of society well patronising the meeting on both days. The Town Hall was fully taxed to hold all that was sent, for competition or otherwise, there being a capital and extensive display of hardy fruit, as well as the usual round of plants and cut flowers. Everything was well planned and carried out by the Committee, most of whom are practical gardeners, much credit also being due to Mr. A. G. Andrews, the Hon. Secretary, and Mr. R. Isgar, Hon. Treasurer.

Groups, largely composed of Chrysanthemums, are always a feature at Wells, and this time they were more numerous and better than usual, Mr. J. B. Payne, gardener to the Lord Bishop of Bath and Wells, was awarded the first prize for a very excellent and imposing arrangement, comprised in which were numerous remarkably well grown Pomsettias, some good pots of Eucharis amazonica, with Crotons, Ferns, and other plants, while the best represented Chrysanthemums were Golden Dragon, Sunflower, Louis Boehmer, Stanstead White, Avalanche, and Sarah Owen. Mr. Wilkinson, gardener to C. C. Tudway, Esq., was a close second, grand Chrysanthemums being shown in this fine group. The third prize went to Mr. Stokes, gardener to N. McLean, Esq., who also had some fine Chrysanthemums. Smaller groups were very well shown by amateurs, these not often being equalled by this class of growers. Trained plants were neither so numerous nor good as usual, the best display of these and the most prizes being won by Mr. Chislett, gardener to Mrs. Rees Mogg, Glastonbury. The best table plants were shown by Mr. H. Young, gardener to W. S. Hodgkinson, Esq., Wells, Mr. R. Phillips, gardener to J. Baily, Esq., Frome, also showing well.

Cut blooms were scarcely so numerous as usual, though there were ample for the space that could well be devoted to them. There were three entries in the principal class, or that for twenty-four blooms, to consist of equal numbers of Japanese and incurved varieties; and here Mr. J. P. Payne was well first, and Mr. Wilkinson a good second. Mr. Payne's blooms consisted of Japanese.—Back row: Avalanche, W. G. Drover, E. Molyneux, and Etoile de Lyon. Middle row: International,

W. W. Coles, Stanstead White, and E. W. Clarke (very fine). Front row: M. Bernard, Mrs. Wheeler, Val d'Andorre, and Sunflower. Incurved.—Back row: Empress of India, Golden Empress, Queen of England, and Lord Alcester (very good and selected for the certificate of the National Chrysanthemum Society). Middle row: Mrs. Heale, Violet Tomlin, Miss Haggas, and Alfred Salter (very good). Front row: Jardin des Plantes, Mrs. Coleman, Lord Wolseley, and Jeanne d'Arc. In Mr. Wilkinson's stands were very superior blooms of J. Doughty, Mrs. Heale, Princess of Wales, Empress Eugénie, and Japanese Gloire de Rocher, a decided improvement on Val d'Andorre. Mr. Payne was also well first for twelve incurved varieties, Lord Alcester, Queen of England, Empress of India, Golden Empress, Princess of Wales, and Mrs. Coleman being the best represented. Mr. Wilkinson was second. The competition with twelve Japanese varieties was also good, but in this instance local growers were well beaten by Mr. W. Strugnell, gardener to A. R. Baily, Esq., Frome, who had in his back row Puritan, Sunflower (extra good), Etoile de Lyon, and Volunteer. Middle row: W. H. Lincoln, Mrs. Falconer Jameson, Edwin Molyneux, and Avalanche; and front row: G. Atkinson, M. Bernard, G. Daniels, and Sarah Owen; altogether very fine blooms. Mr. Wilkinson was second. The last-named was well first for twelve blooms of Anemone-flowered in not less than six varieties, these consisting of Gluck, Lady Margaret, Jeanne Marty, Sabine, Madame Cabrol, Cincinnati, and A. Chater. For the first time at Wells a class was provided for twelve undressed incurved blooms shown with not less than 12 inches of stem. There was good competition with these, Mr. Wilkinson being well first, both blooms and foliage being remarkably good.

A fairly large room had to be given up to the display of hand bouquets, vases, and baskets of flowers, and autumn foliage, and it is very doubtful if the display made will be excelled anywhere this season. Miss Snelgrove was first for a hand bouquet composed of Chrysanthemums and Fern fronds, and Miss Tatchell second, those made by professional men, though lighter, not being fresh enough. The best vase of Chrysanthemums and greenery was arranged by the Hon. Frances Sugden, Mr. Strugnell also having a very well arranged and imposing vase, and was second, Mrs. L. E. Walter being a good third. The vases of autumn foliage and berries were the great feature of the room, if not of the Show, the taste displayed and the pains taken being conspicuously evident. The Hon. Miss G. Sugden was first, the Hon. Florence Sugden following closely, the third prize going to Mrs. L. E. Walter. There were so many capital baskets of autumn foliage and berries shown that it was considered advisable to award six prizes in the class.

Messrs. Payne, Wilkinson, Phillips, J. Reed, H. C. Salmon, and McKenzie were among the principal prizewinners in the various fruit classes, Apples and Pears being particularly good. Messrs. Jarman and Co., Chard, were highly commended for a grand display of Apples, Pears, Onions, and such like, having fully a hundred varieties of the former, and twenty dishes of Pears. Mr. Brown, Wells, was also highly commended for a somewhat similar exhibit; Mr. Mogford, Wells, being commended for a smaller, though very excellent show of hardy fruit.

PORTSMOUTH.—NOVEMBER 4TH, 5TH, 6TH.

THE seventh annual Exhibition of the Portsmouth Chrysanthemum Society was held in the capacious Drill Hall on the dates named, and was equal on the whole to any previous Show. The arrangements were of the usual satisfactory character. Mr. Power, Hon. Secretary, Mr. B. Miller, Assistant-Secretary, and Mr. Collins as stager, deserving every credit for the way in which so large an exhibition was managed.

Cut blooms formed the most important feature of the Show, 2600 being staged. The principal class was that for forty-eight, half to be Japanese and the remainder incurved in not less than eighteen varieties in either section, and for which a piece of plate, value £25, with £8 added, as first prize: £7 for second, £5 for third, and £3 fourth, were offered. Messrs. Drover having won this trophy last year, and being again successful this time, it now becomes their property. Very fine indeed were both the incurved and Japanese, the back row of the former being especially heavy and well finished. The varieties were:—*Incurved*: Empress of India (2), Lord Alcester (2), Queen of England (2), Emily Dale (2), A. Salter, Prince Alfred, Mr. Robert Mudie (2), Princess of Wales, Golden Empress, Violet Tomlin, Lord Wolseley, Empress Eugénie, Mrs. Shipman, Miss M. A. Haggas (2), Nil Desperandum, Mrs. S. Coleman, Jeanne d'Arc, and Lady Carey. *Japanese*: Etoile de Lyon (2), Pelican, Boule d'Or, Alberic Lunden, Stanstead White (2), Sarah Owen, Sunflower, Mrs. C. Wheeler (2), Madame J. Laing, E. Molyneux (2), M. E. A. Carrière, Mr. Ralph Brocklebank, Mrs. E. J. Clarke, M. Bernard (2), Mrs. F. Jameson, W. H. Lincoln (2), Condor, and Louis Boehmer. Second, Mr. A. Payne, gardener to Mrs. Ernald Smith, The Oaks, Emsworth, with medium-sized neat incurved blooms, and full heavy Japanese. Amongst the latter the following were noteworthy: Mrs. C. Wheeler, Condor, M. Bernard, Etoile de Lyon, Stanstead White, and Sunflower. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rookesbury Park, Wickham, was an exceedingly close third. The incurved blooms were ahead of the second prize stand, but the Japanese showed a still greater falling off. Mr. Agate, Havant, was fourth, having good Japanese.

For twenty-four distinct, half to be incurved and the remainder Japanese, five competed. Mr. N. Molyneux was an easy first, having perfectly finished incurved of large size and very fresh, but the Japanese being rather thin. The varieties were E. Molyneux, Mrs. J. Clarke, M. Bernard, Condor, Etoile de Lyon, Gloire de Rocher, Sunflower, Mdme. J. Laing, Stanstead White, Puritan, Louis Boehmer, Avalanche,



Incurved: Lord Alcester, Golden Queen of England, Empress of India, Queen of England, Mr. R. Mudie, Golden Empress, Lord Wolseley, Alfred Salter, Miss M. A. Haggas, Violet Tomlin, Mrs. S. Coleman, and Princess of Wales. Mr. Payne was second with good Japanese, the incurved being rather small. Mr. Penford, gardener to Sir F. Fitzwygram, Leigh Park, Havant, third. For twelve incurved, the last-named exhibitor easily took the premier award with medium-sized neat blooms of Lord Alcester, Queen of England, John Doughty, Empress of India, Nil Desperandum, Mrs. Heale, Mrs. S. Coleman, Princess of Wales, Violet Tomlin, Jeanne d'Arc, Lord Wolseley, and Miss M. A. Haggas, Mr. C. Steptoe, gardener to W. A. Gale, Esq., Horndean, second. Mr. Edwards, Witley Heights, Witley, Surrey, third. Mr. Penford followed up his previous successes by taking first honours for twelve reflexed, twelve Anemone, and twelve Japanese Anemones, in all cases staging full and solid blooms, the principal varieties being the following: Reflexed—King of Crimson, Distinction, Dr. Sharpe, Golden Christine, and Cloth of Gold; Anemones—Miss A. Lowe, Gladys Spaulding, Lady Margaret, George Sands, and Mme. R. Owen; Japanese Anemones—Sœur Dorothee Souille, Jeanne Marty, Minnie Chate, and Fabian de Mediana. Mr. Russell, gardener to Dr. C. F. Lewis, Henfield, Sussex, and Mr. C. Steptoe were second and third in the former class, both staging good blooms. In the Anemone class the two last-named reversed their positions. Mr. H. Adams, gardener to T. S. Edgcombe, Esq., Hinton House, Elm Grove, Southsea, secured second position in the Japanese Anemone class.

With Pompons in not less than eight varieties, three blooms to a bunch, eight competed, making a good display. Mr. Russell secured first prize with capital blooms, the best being Madame Domage, President, Prince of Orange, Wm. Holmes, and Marabout. Mr. Agate, second; Mr. Hatch, gardener to the Victoria Park Committee, Portsmouth, third. A class was provided for fimbriated flowers, twelve bunches, in not less than four varieties, and was one of the most attractive in the Show, so bright were the blooms. Mr. G. Hawkins, gardener to E. Laphorne, Esq., Gosport, was placed first among five exhibitors, the best being Scapin, Massange, Croesus, and Chardonneret. Second, Mr. H. Adams; third, Mr. Hatch. Single varieties formed a class which gave considerable pleasure to the visitors, and especially the ladies, so very fine were they in variety and neatly staged. Mr. Agate was an easy first, having a capital selection, and for the benefit of intending exhibitors or growers of these flowers we append the names—Golden Star, Mr. D. B. Crane, Bessie Conway, Admiral Sir A. T. Symonds, Oceana, Jessie Chignell, Exquisite, Effie, Jenny Lind, Yellow Jane, and Jane. Mr. Hawkins was second, and Mr. Hatch third.

For six Japanese, one variety, Mr. Edwards won with solid blooms of Avalanche; second, Mr. Agate, with the same variety; Mr. W. King, gardener to D. Graham, Esq., Liphook, third. For six incurved, one variety, five competed, the best—large, solid, Empress of India—from Mr. N. Molyneux; Messrs. Edwards and Steptoe following in the order named. Mr. W. Colchester, Ipswich, offered a silver cup for six incurved and six Japanese blooms to have been grown with ichemic guano, which Mr. N. Molyneux secured easily with large firm blooms in both sections. Numerous classes were provided for growers in Portsea Island only, the most important being that for twenty-four, six Japanese, six incurved, six reflexed, and six Anemones. Mr. Hatch secured the premier position with even blooms in all sections; Mr. H. Adams second. The premier incurved bloom in the Show was Golden Queen of England, of magnificent proportions, in Messrs. Drover's cup stand; the premier Japanese being a well-formed Stanstead White belonging to Mr. Penford. Amateurs contributed largely and well in the cut bloom classes.

Plants were staged in large numbers, and of average quality. For eight specimens, four incurved or reflexed and four Japanese, the handsome sum of £8 was offered for first prize, with suitable second, third, and fourth prizes also. Mr. Penford secured the leading award with well-grown plants about 3 feet in diameter, profusely flowered, the best being Mr. Dixon, Mr. G. Rundle, George Glenney, Elaine, Elsie, and Mons. Bernard; Mr. G. Lambert, 14, Gordon Terrace, Whyke Lane, Chichester, second; Messrs. F. & G. Cozens, Rownhams, Southampton, third. For six trained plants Mr. G. Lambert carried off the premier award with healthy plants. The best single specimen, any variety, was one of Elsie from Mr. Penford, having 120 fully developed flowers, a grand plant. A class was provided for twelve plants, distinct, grown and exhibited in 9-inch pots, each plant to carry not more than twelve blooms. Mr. Burridge, North End, Portsmouth, easily secured the premier award with really first-rate plants from 2 feet to 4 feet high, carrying good foliage and fine blooms; Mr. G. Lambert was second.

For the best groups of 50 square feet Mr. Hatch was awarded first prize with plants carrying large blooms, but rather too tall, still he won easily. Mr. Hider, gardener to S. G. Way, Esq., Pottery Works, Portsmouth, second; and Mr. G. Kimber, gardener to the Committee of the Portsmouth Lunatic Asylum, third. For a group of Chrysanthemums interspersed with foliage plants, Mr. J. Burridge received the first prize, although his exhibit was too much crowded. Mr. E. R. Harvey, 63, Hanover Street, Portsea, second, too formal also. Plants for table decoration made a remarkable display, so even and good in quality were those staged. For twelve Mr. Edwards was placed first; Mr. J. Amys, gardener to the Hon. Mrs. Elliot Yorke, Hamble Cliff, Netley, second. Primulas were very fine, Messrs. Burridge and Agate receiving the awards in the order here named.

Two classes were open to ladies only. For the most tasteful arrangement of Chrysanthemums and any kind of foliage, on table 3 feet square, Mrs. Conway, Havant, easily secured leading position with a

light arrangement. Miss B. Ladhams, second. For a glass stand or epergne dressed with Chrysanthemums and other flowers, Miss Kate Goldring, Winchester Road, Southampton, was first with a tastefully arranged stand. Second, Mrs. Conway; Miss Ladhams third. For an epergne dressed with berries and autumn foliage Mrs. Conway somewhat easily secured the premier award with a charming combination of colours. Mrs. Ladhams second—six competing. The class for a bouquet of Chrysanthemums and Ferns was well filled. Mr. B. Ladhams, with a simple yet elegant arrangement of the Japanese variety Sourced'Or, associated with long sprays of dark-leaved Spiræas, &c., having the honour of placing Messrs. Perkins, Coventry, in the second position.

Fruit made an imposing display, the competition being keen and the quality good. For three bunches of black Grapes, any variety, Mr. T. Hall, gardener to S. Montague, Esq., M.P., South Stoneham House, Southampton, was first with Alicante in good condition; Mr. N. Molyneux second. For three bunches of white Grapes Mr. J. Chalk, gardener to G. Read, Esq., Westwood, Salisbury, was an easy first with good Muscat of Alexandria, Mr. N. Molyneux following with the same variety. For two bunches of black Grapes Mr. Chalk secured the leading position.

For thirty dishes of Apples and twenty dishes of Pears, distinct varieties, Messrs. G. Bunyard, Maidstone, secured the coveted award, the following varieties being noteworthy:—Royal Jubilee, Belle Pointoise, Gloria Mundi, Peasgood's Nonesuch, Loddington, Queen, Cornish Aromatic, Washington, Bismarck, and Lady Henniker. Mr. J. Watkins, Pomona Nurseries, Withington, second; Messrs. Cheal, Crawley, third. For sixteen dishes of Apples and eight dishes of Pears Mr. Hall was first with good fruit. Prizes were offered for single dishes of both Apples and Pears, which were contested with spirit. Space forbids of a detailed account of each.

Vegetables were numerous staged, the quality being quite of an average character. For nine distinct varieties Mr. Hawkins was first, Mr. Penford, second; and for six varieties Mr. H. Budd, gardener to R. Sainthil, Esq., R.N., Rockbeare, Emsworth; Mr. N. Molyneux second. Both in extent, quality, variety, and arrangement the display was most creditable to exhibitors and officials.

#### BRIXTON, STREATHAM, AND CLAPHAM.—NOV. 3RD AND 4TH.

THIS old established Society held its thirty-second Exhibition in the Town Hall, Streatham, on the above dates, and proved an undoubted success. There were, as is customary here, excellent and numerous examples of both flowering and foliage plants in addition to Chrysanthemums. Mr. Poulton, gardener to C. T. Cayley, Esq., was awarded the premier position for a collection of Chrysanthemums arranged for effect. They were of very dwarf habit, tastefully set up, and well merited the distinction awarded. Mr. Mursell, gardener to W. Burton, Esq., and Mr. Stevens, gardener to B. F. Smith, Esq., received the second and third awards respectively for highly meritorious collections. For six specimen incurved Mr. Cherry, gardener to Mrs. Gabriel, was first, Golden Queen of England and Empress of India being especially good. Mr. Weston, gardener to D. Martineau, Esq., was placed second; but for six Japanese Mr. Weston turns the tables with magnificent plant of L'Ile des Plaisirs, Madame Bertie Rendatler, Madame de Sevin, Elaine, Mons. Jacotot, and Stanstead Surprise. Mr. Cherry was a very good second, exhibiting Elaine, Madame Bertie Rendatler, Mons. Garnet, Hiver Fleur, and Margot. Mr. Clarke, gardener to W. Griffiths, Esq., staged three grand examples of Mrs. G. Rundle, Dr. Sharp, and Mr. Dixon, which deserved the first prize awarded to him. Specimen Pompons were also well shown, Messrs. Weston and Cherry sharing the honours between them.

In the many cut bloom classes there was keen competition. With twenty-four incurved Mr. Howe, gardener to H. Tate, Esq., was well to the front with a clean and fresh collection, comprising Bronze Queen of England, Violet Tomlin, John Lambert, Princess of Wales, Empress of India, Lord Wolseley, Queen of England, Alfred Lyne, Mr. Coleman, Jeanne d'Arc, Prince Alfred, Jeanne d'Arc, Violet Tomlin, Mrs. Heale, Mrs. Coleman, Princess of Wales, Hero of Stoke Newington, Princess Teck, Mrs. W. Shipman, Miss Haggas, Princess Beatrice, Lady Dorothy, and Jardin des Plantes. Mr. Wildman would have made a very good second, but unfortunately he had staged three Lord Wolseleys when it was stipulated there should not be more than two of any one variety. Mr. J. Stevens, gardener to B. F. Smith, Esq., was placed third, the second award being withheld. In the class for twelve incurved, Mr. Howe was again to the front with large examples of Alfred Lyne, Mrs. Coleman, Bronze Queen of England, Empress of India, Lord Alcester, Violet Tomlin, Princess of Wales, Lord Wolseley, Princess Beatrice, Jeanne d'Arc, Jardin des Plantes, and Mrs. Heale. Mr. Poulton was placed second with a good collection, Empress of India, Princess of Wales, and Alfred Salter being especially noteworthy. Mr. W. Hill, gardener to G. W. Ryder, Esq., was placed third. For six blooms, Mr. Pearce, gardener to Mr. Fletcher Bennetts staged very fine Lord Alcester, Alfred Salter, Violet Tomlin, Prince Alfred, Lady Slade, and Jardin des Plantes, Messrs. Cherry and Sandham sharing the other awards.

There was the same excellence of size, beauty, and freshness throughout the many stands of Japanese as was to be observed among the incurved classes. For twenty-four distinct, Mr. Mursell, gardener to Mrs. Burton, was well ahead with Stanstead White, W. Tricker, Edwin Molyneux, Gloriosum, Louis Boehmer, Beauty of Castlewood, Mrs. Clark, Gloire de Rocher, Golden Dragon, Meg Merrilies, Viviani Morel, Mrs. F. Jameson, Condor, Avalanche, Violet Rose, M. A. Carrière, Cesare Costa, Cleopatra, Mrs. W. Thrower, Mons. Bernard, and Sunflower. Mr. Howe



was a good second, his Etoile de Lyon, Val d'Andorre, Mrs. A. H. Neve, and Sarah Owen were very fine. Mr. Ashby, gardener to H. R. Holman, Esq., was a very creditable third. There were several other good collections staged in this class. For twelve blooms Mr. Howe received the highest award, after a sharp contest, with very fine blooms of Mrs. Jameson, Edwin Molyneux, Etoile de Lyon, high colour; Avalanche, Val d'Andorre, Stanstead White, Madame Baco, Thunberg, and Mons. Bernard. Mr. Mursell was placed second, and Mr. Ousley, gardener to R. Lyell, Esq., third, for meritorious collections. Reflexed were represented by Messrs. Mursell, Poulton, and Stevens, who were placed in the order of their names. Many other worthy exhibits deserve mention, which our space will not allow, but the whole arrangement reflected the highest credit on the executive and their zealous Hon. Secretary, Mr. W. Roupell, who laboured very hard to bring the Exhibition to a successful issue.

#### THE DALSTON AMATEURS' SOCIETY.—NOVEMBER 4TH AND 5TH.

It is well known in the horticultural world that amateurs who apply themselves closely and earnestly to any branch of gardening often excel in the production of plants, flowers, fruits, and vegetables requiring the greatest skill and attention; indeed, it is not an uncommon occurrence in open competition for amateurs to defeat experienced gardeners. This results chiefly from the fact that devoting time and attention solely to one class of production gives the best chance of success in cultivation. This is abundantly proved in the system adopted by market growers at the present time, namely, confining themselves to, and making a reputation for, a few plants, fruits, &c., which become specialties. In floriculture amateurs have done wonderful service, and amongst the Chrysanthemums especially they have taken a prominent place in the ranks of successful exhibitors. Even in the least favourable districts, closely pent populous localities of the metropolis and provincial towns, they have overcome innumerable difficulties, and presented the "Queen of Autumn" flowers in a condition highly creditable to themselves, eminently satisfactory to visitors, and offering every inducement to others to enter the ranks of those who engage in such a delightful, healthful, and admirable recreation.

Knowing what has been, and can be accomplished, in this way, a most agreeable surprise was still afforded by the fourth annual Exhibition of the Dalston and De Beauvoir Town Amateur Chrysanthemum Society, which was opened by Lady Hunter at the Albion Hall on Wednesday, November 4th. The hall is of moderate size, and its resources were taxed to the utmost to find space for the overflowing exhibits contributed in competition and otherwise. Around the sides of the hall were groups of Chrysanthemums bearing abundance of brilliant flowers, while the centre tables were devoted to the cut blooms, which were of satisfactory quality throughout, and in several cases would have taken a good place in much more extensive shows. There was a freshness and diversity which imparted a most pleasing character to the Show, and it is almost needless to say that the Committee had arranged the exhibits to the best advantage.

Glancing hurriedly at the winning contributions we found that in the "Holmes class" for thirty-six plants Messrs. Rolt, Reid, and Powell were the most successful in the order named, the first also taking in addition to the silver-gilt medal a special prize of a portable greenhouse, presented to the Society by "a friend of horticulture." The other two prizes were silver and bronze medals respectively, and the plants in each case were well grown healthy specimens. With twenty-four plants Messrs. W. H. Miles, H. R. Pearce, and J. Mann were the prizewinners, the best twelve plants coming from Messrs. Prentiss, G. C. Young, and F. Pearce, and the best three trained specimens from Messrs. Rolt and Reid.

The cut blooms were most praiseworthy, the Japanese bright and substantial, the incurved neat and refined. Mr. W. H. Miles had the best twenty-four blooms, twelve Japanese and twelve incurved, thus winning the silver-gilt medal and Mr. Toope's excellent heating apparatus, presented as an additional prize. Mr. G. P. Rolt followed closely in this class, and was first with twelve Japanese and twelve Pompons, the latter wonderfully good. Mr. Miles also had the best twelve and six incurved blooms, and six Japanese. In the open classes Messrs. Winter, Kendall, and Nye were the winners for twelve blooms.

Amongst the non-competing exhibits Messrs. J. Laing & Sons, Forest Hill, had a valuable collection of foliage plants and Heaths; Mr. H. J. Jones, Lewisham, sent thirty-six handsome cut blooms; and Mr. C. Gibson, Morden Park Gardens, a well known exhibitor at the leading shows, had twenty-four fine cut blooms, all of which added materially to the interest and beauty of the Exhibition.

Altogether the Society had good reason to be satisfied with the results of their efforts, and it is evidently performing valuable service in the district. The Committee with their Chairman, Mr. Hill, and Secretary, Mr. Butler, deserve especial congratulation upon the work performed, which should give ample encouragement to proceed on the same lines.

#### ISLE OF WIGHT.—NOVEMBER 4TH AND 5TH.

THE seventh annual Exhibition of this excellent and well managed Society was held at the Drill Hall, Newport, on Wednesday and Thursday last week, and proved an unqualified success. The Society has a long list of noble and wealthy patrons, and is under the admirable administration of Dr. Groves, J.P., as Chairman; Dr. Coombes, Treasurer, and Mr. Horace Groves, the Secretary, who, in conjunction with

a practical working Committee, have laboured hard this year as in the past to carry out in an efficient manner the duties devolving upon them.

The schedule of prizes was most representative, and contains sixty-five classes for nurserymen, gardeners, and cottagers. The latter had excellent exhibits, in some cases all but equal with the nurserymen and gardeners. Several pleasing and attractive groups were arranged around the sides of the spacious hall, the premier position for a 40-foot group being taken by Mr. G. Freeland, gardener to F. T. Mew, Esq., Polars, Newport, while Mr. W. Morris, gardener to Captain Eveleigh, Shide was a good second.

Miss Way Buckell, Castlehold House, Newport, secured the first place in the amateurs' groups for a well arranged and neat collection, and Mr. F. J. Tomlinson, Trafalgar Road, Newport, in the cottagers' division. Other prizewinners in the group classes were Messrs. Sanders, Webber, and Taplin. Several collections of very neat trained specimens were staged, the best being exhibited by Mr. E. W. Sheppard, gardener to T. C. Clarke, Esq., J.P., Oakfield, Wooton, and took the highest awards in each of the classes for four incurved, four Japanese, single specimen incurved, and single specimen Japanese. All being very creditable, trained, fresh, and profusely flowered. Messrs. G. Freeland, Sinington, Matthews, Guy, and Miss Blake were the other principal prizetakers for trained specimen plants.

Cut blooms, taken collectively, were numerous, and formed a most important feature of the Show. For twenty-four incurved or reflexed Mr. A. Tolley, gardener to S. E. Ridley, Esq., St. Helens, was awarded first honours with a fresh collection consisting of Violet Tomlin, Golden Empress, Cullingfordi, Empress of India, Prince Alfred, John Lambert, Queen of England, Mrs. W. Shipman, Princess of Wales, Miss Haggas, Jeanne d'Arc, Emily Dale, John Salter, Mrs. Heale, Golden Empress, Madame Teizer, Empress of India, Princess Teck, Hero of Stoke Newington, Miss Haggas, Venus, and Mr. Gladstone. In the corresponding class for twenty-four Japanese blooms, not less than eighteen varieties, Mr. F. Miller, gardener to Mrs. Brooke-Firman, East Cowes, was deservedly awarded the first prize for praiseworthy examples of Edwin Molyneux, Val d'Andorre, Stanstead White, Sunflower (very fine), Avalanche, Etoile de Lyon, Puritan, Jeanne Délaux, Florence Percy, M. Bernard, Madame Baco, Elaine, Duchess of Albany, M. J. Laing, Boule d'Or Gloriosum, Mdle. Lacroix, Sarah Owen, and M. Burnet. Mr. R. Tolley, gardener to Lady Oglander, Nunwell, was a close second. For twelve incurved Mr. Tolley was first and Mr. Sheppard second; while in the class for twelve Japs Mr. Sheppard again secured the highest award.

In the open class for twelve incurved or reflexed and twelve Japanese, all distinct, there was only one good collection, that being from Mr. A. Tolley, whose blooms were all that could be desired. The incurved were Empress of India, Prince Alfred, Princess of Wales, Violet Tomlin, Golden Empress, Queen of England, Emily Dale, Lord Wolseley, M. Bahuant (very good), Mrs. Heale, Miss Haggas, and John Salter. Japanese: M. Bernard, George Daniels, Edwin Molyneux, Etoile de Lyon, Meg Merrilies, Madame Baco, Avalanche, Madame C. Audiguier, Grand Flora, Stanstead White, Mr. H. Cannell, and M. J. Pigny. Numerous other cut bloom classes were represented, also bouquets, epergnes, and baskets, tastefully arranged Primulas, Cyclamens, and fruit, the whole forming a brave display, worthy of the island and those who had worked so ably for its ultimate success.

#### ASCOT.—NOVEMBER 4TH AND 5TH.

For years the Chrysanthemum exhibitions held in the Grand Stand at Ascot have been counted amongst the best in the country; certainly the one in question was a decided success. Nowhere do we see groups of Chrysanthemums better managed than here. Cut blooms, too, are remarkable for their even and superior quality, and demand first notice. The principal class was that for eighteen incurved and the same number of Japanese, all to be distinct, and for which a silver cup was offered to go with a money prize for the best stand. Mr. Lane, gardener to Miss D. Smith, Knap Ride, Ascot, having won the first prize in this class twice before and repeating his previous success again this time, the cup becomes his property. The incurved were models of neatness, large, and timed to the day as regards freshness. The names were Golden Empress, Alfred Salter, Princess of Wales, Jeanne d'Arc, Nil Desperandum, Lady Dorothy, Lord Alcester, Queen of England, John Doughty, Miss M. A. Haggas, Novelty, Violet Tomlin, Empress of India, Golden Queen of England, Lord Wolseley, Mrs. Heales, Lady Hardinge, and Mrs. S. Coleman. Japanese were heavy, bright, and well arranged. The names were Geo. Atkinson, Jeanne Délaux, Album Fimbriatum, A. H. Neve, Madame J. Laing, Stanstead White, Etoile de Lyon, Mons. Bernard, Avalanche, Mrs. F. Jameson, Alcion, Edwin Molyneux, Bertha Flight, Madame C. Audiguier, Japonais, Sunflower, and Marsa. Mr. Page, gardener to Mr. H. P. Leschallas, Ascot, was a good second, although some distance behind the winner. Mr. Hughes, gardener to H. F. de Paravicini, Esq., Bracknell, third.

For twenty-four incurved, distinct varieties, four competed, making a really fine display. So even in quality were the blooms that not more than three and a half points separated the first three stands. Mr. Hughes took premier honours with well-finished examples, large in size, of Golden Empress, John Doughty, Princess of Wales, John Salter, Refulgens, Pink Venus, Queen of England, Golden Queen of England, Alfred Lyne, Mrs. Heales, Jardin des Plantes, Prince of Wales, Empress of India, M. H. Bahuant, Violet Tomlin, Jeanne d'Arc, Novelty, Mr. Brunlees, Lord Alcester, Alfred Salter, Lord Wolseley, Miss M. A. Haggas, Camille Flammarion, and Lady Hardinge. Mr. Tomlinson, gardener to F.



Ricardo, Esq., Old Windsor, was second, and Mr. J. Thorne, gardener to Major Joicey, Ascot, third.

No less than seven competed in the class for twenty-four distinct Japanese, creating a fine display. Mr. Sturt, gardener to N. L. Cohen, Esq., Englefield Green, succeeded, after a close fight, in obtaining the premier award with the following varieties:—Etoile de Lyon, Avalanche, Marsa, Val d'Andorre, Mdle. Lacroix, Holborn Beauty, Japonais, Fair Maid of Guernsey, Ralph Brocklebank, Stanstead Surprise, Mrs. A. Hardy, Annie Clibran, Volunteer, Condor, M. Bernard, E. Molyneux, Puritan, Florence Percy, Mdme. C. Audiguier, Baronne de Prailly, Sunflower, M. J. M. Pigny, and Bertha Flight; Mr. Tomlinson second, and Mr. Hughes third.

For twelve incurved Mr. Paul, gardener to J. C. Bowring, Esq., Ascot, was first with even, neat blooms; Mr. Cole, gardener to E. Hamilton, Esq., Sunningdale, second. For the same number of Japanese, distinct, five entered, the best, a capital lot, coming from Mr. Cole; the Rev. R. M. Macdonald second. For six, any one variety Japanese, ten competed, Avalanche taking first and second prizes for Messrs. Hughes and F. J. Thorne in the order named, Ralph Brocklebank winning the third honour for Mr. Woodhouse, gardener to Miss H. Belcher. The finest six incurved, one variety, were from Mr. Lane amongst eight others, large and solid specimens of Empress of India; Mr. Joy, gardener to Mrs. Entwistle, second with the same variety.

Reflexed are always well staged here. Much encouragement is given to this class, a silver cup being offered for first prize, which was well won by Mr. Cole with a very fine lot of blooms, namely Orion, J. H. Bradbury, Cloth of Gold, Emperor of China, Fred Hart, King of Crimsons, Pink Christine, Felicity, Chevalier Damage, Cullingfordi, and Distinction. Mr. Page was a good second. The premier incurved bloom was Lord Alcester in Mr. Lane's cup stand, and the best Japanese Vivian Morel in that of Mr. F. Debnam, gardener to A. Pears, Esq., Isleworth, both extremely fine blooms.

Groups of Chrysanthemums were remarkable for the even high quality of the incurved blooms especially, and for the dwarf nature of the plants. Mr. Cowie, gardener to V. L. Oliver, Esq., Sunningdale, was the most successful amongst five entries. Mr. May, gardener to the Hon. Lady Isabella Keane, a close second. Mr. Hughes third. Chrysanthemums in pots as specimens call for no comment, being only of moderate quality.

Five groups of miscellaneous plants made an imposing display on one side of the room in which the cut blooms were arranged. Mr. Paul secured the first prize easily, Mr. Thorne following. Primulas were remarkable for their high quality. For six white Mr. Joy was first, as also for six coloured. Mr. Woodhouse staged the finest white Cyclamens. Mr. Lane had the best table plants—a good six.

Fruit was of good quality, Mr. Lane taking first prize for two bunches of white Grapes with really splendid Muscat of Alexandria; while Mr. C. Cooper, Sunninghill, did likewise for two of any black variety with well finished Alicante. Mr. Joy had the best four dishes of dessert Pears. Mr. Fenner, gardener to the Rev. Canon Girdlestone, Sunningdale, had the best kitchen Apples, four dishes. Mr. F. J. Thorne the best dessert sorts.

#### CHISWICK.—NOVEMBER 5TH.

FOR several years the autumn shows at Chiswick have been, like the summer shows in the same place, distinguished by the high quality of the exhibits and their bright general character, so that when it was mooted that possibly the Exhibition this year might not be held owing to several unforeseen and unfortunate occurrences, several good supporters of the Society combined to avert such a local disaster. The result was that Mr. E. Hinton became Secretary in succession to the late respected Mr. Hartland, whose death took place suddenly a few weeks ago, and the Exhibition was held as arranged on Thursday last week. The Vestry Hall, Turnham Green, is not a very spacious building, but it is convenient, and with the aid of several beautiful non-competing groups a most pleasing effect was produced. The cut blooms occupied a table in the centre of the hall, and the specimen plants with the groups were arranged round the sides, every foot of available space being filled.

The chief class for cut blooms was that for twenty-four (twelve incurved and twelve Japanese), and in which Colonel W. P. Talbot, Glenhurst (gardener, Mr. C. J. Waite), won the first prize with fresh even medium-sized blooms of the following:—Incurved: Prince Alfred, Jeanne d'Arc, Lady Hardinge, Lord Alcester, Princess of Wales, Mr. Brunels, Nil Desperandum, Miss M. A. Haggas, Empress of India, Lord Wolseley, Violet Tomlin, and Queen of England; Japanese: Condor, Avalanche, Val d'Andorre, Stanstead White, Mrs. Falconer Jameson, Mdle. Lacroix, Sunflower, Stanstead Surprise, J. Délaux, E. Molyneux, Pink Lacroix, and Madame Baco. The second place was taken by E. P. Oakshott, Esq., Orchard Dene, Ealing (gardener, Mr. C. Long), who had some good fresh blooms; and Mrs. Sanderson, Duke's Avenue, Chiswick (gardener, Mr. R. Wood), was third. The class for twelve incurved included some neat exhibits, E. Tautz, Esq., Castle Bar, Ealing, securing the chief prize, followed by C. M. Tate, Esq., Ranelagh House, Chiswick (gardener, Mr. Aspland). The best six incurved came from Mr. H. Head, Inglewood Gardens, Kew, who also had the leading six Japanese. Mr. Davis staged the first collection of twelve Japanese, and Mr. Waite led with six reflexed blooms, also taking the same position for six Japanese blooms of one variety with capital examples of Stanstead Surprise, and the same exhibitor was first for six Pompons, followed by Messrs. Chadwick and Davis. Mr. Chadwick was first for

six single varieties with very graceful blooms, and successful exhibitors in other cut bloom classes were Messrs. Clark and Avey.

The principal prizes for groups and specimen plants respectively were secured by Messrs. Fromow and Sons, Chiswick, and Mr. Meads, gardener to J. T. Thornycroft, Esq., Eyot Villa, Chiswick, while for fruit Messrs. Waite, Wood, Chadwick, and Lang were the chief prizetakers.

Amongst the non-competing exhibits were handsome groups of Chrysanthemums from the Marquis of Bute (gardener, Mr. May), Nepenthes and other plants from the Duke of Northumberland, Syon House, a miscellaneous group from the Messrs. Rothschild, Gunnersbury Park (gardener, Mr. Reynolds), also from E. A. Watts, Esq., Devonhurst, Chiswick (gardener, Mr. H. Wright), and a most attractive group of Chrysanthemums from the Royal Horticultural Society's Gardens, Chiswick, besides a collection of Apples from the same establishment, and another from Messrs. C. Lee & Sons, Hammersmith.

Altogether the Show was very satisfactory and deserves every encouragement from the residents in the neighbourhood.

#### CAMBERWELL, PECKHAM, AND DULWICH.

NOV. 5TH AND 6TH.

A VERY creditable gathering was made by this Society at the Peckham Public Hall, Rye Lane. No less than ten groups were in competition; that for 100 square feet was arranged by Mr. Witty, Superintendent of the Nunhead Cemetery, who secured the tradesmen's silver challenge cup for a highly meritorious collection, the flowers throughout this large group being remarkable for their freshness. Mr. Elson, gardener to M. Peat, Esq., was a very fair second. Amongst the amateurs the group staged by Mr. M. Falkner, Crawthorpe Grove, East Dulwich, displayed very high taste in arrangement, it being among the best we have seen for the season. Other good collections were staged by Messrs. Snoad, Bolton, Clival, Dominy, Lindley, and Merriden. The cut bloom classes were fairly well filled, the principal prizetakers being Messrs. Stevens, Witty, Elson, Brettinshaw, Merriden, Snoad, Bennetts, Clival, and Glasere.

Two very interesting and attractive collections of British and foreign fruit were arranged and much admired. Mr. Major, Pine Apple Nursery, who staged fine Grapes, Pines, and a splendid bunch of Bananas, was awarded the first prize, and Mr. Fletcher, High Street, Peckham, the second. This latter collection contained several fine dishes of Apples and Pears. Messrs. French and Norman Davis staged groups of Chrysanthemums not for competition. The N.C.S. bronze medal was awarded to Mr. Falkner, and the silver to Mr. Merriden, gardener to Dr. Paul, Camberwell House.

#### PUTNEY AND WANDSWORTH.—NOVEMBER 5TH AND 6TH.

THE Putney and Wandsworth Chrysanthemum Society changed the place of their Exhibition from the Putney Assembly Rooms to the much more roomy Town Hall at Wandsworth this year, and judging by the evening attendance the experiment should be as great a success financially as it was artistically. The exhibits were much better displayed than formerly, while there was more space for visitors.

Cut blooms were not quite up to the usual standard, Mr. M. Sullivan, who used to show so finely, having left the neighbourhood. The difference in quality owing to his absence was very marked, but it left the competition much more open. On several former occasions he practically swept the board of the principal prizes. Mr. Knowles, gardener to Mrs. Egerton, Solna, Roehampton, won with twenty-four incurved, his flowers being of fair size but somewhat lacking in solidity and smoothness; John Lambert, Jardin des Plantes, Lady Hardinge, Golden Beverley, and Empress of India were the best. Mr. Bentley, gardener to Lady Gabriel, Edgecumbe, Wimbledon Park, was placed second for much smaller flowers, and of which the freshness was the best point. Violet Tomlin and John Salter were good. Mr. Knowles won again with twelve, relatively a much better stand than the twenty-four. Jeanne d'Arc was here very fine, and Alfred Salter, John Doughty, Prince Alfred, and Nil Desperandum were all large and good flowers. Mr. Bentley was second, and Mr. Methven, gardener to W. Keiller, Esq., Fernwood, Wimbledon Park, was third. Sixes were weak. There were only two stands, and the first and second prizes went to Messrs. Portbury, gardener to W. N. Froy, Esq., Rippon House, Putney Heath, and Mr. Methven respectively.

The Japanese included the best stand in the Show—namely, Mr. Knowles' first prize twenty-four; these, though not perfect, were a good collection of flowers—Etoile de Lyon, Mons. Bernard, Stanstead White, Madame J. Laing, Condor, Mdle. Lacroix, and Fair Maid of Guernsey, being all very good. Mr. Bentley followed with much smaller blooms, Etoile de Lyon being the only one that approached the true size; the flowers were, however, very fresh. Mr. Knowles had another easy victory with twelve Japanese, showing a really excellent stand, with Edwin Molyneux, Condor, Madame J. Laing, Avalanche, Val d'Andorre, and Stanstead White, very fine. Mr. W. J. Wright, gardener to — Tufnell, Esq., The Grove, Wimbledon, was second with fresh but rather small blooms; and Mr. Bentley third. Messrs. Portbury and Wright were first and second with six.

Mr. Knowles had a very fine stand of Reflexed, though somewhat weakened by a small White Christine, and well deserved the premier award. He was also to the fore with large Anemones. Mr. Bentley won with Pompons, minor prizes in these classes going to Messrs. Pearce and Portbury. There were some good blooms in the classes for single-handed gardeners. Messrs. Page, gardener to H. Chester, Esq., Royston, Putney Hill, and Holmes, gardener to S. Crawshaw, Esq., The



Grange, Putney Hill, had excellent stands. Dr. Walker, 12, Ringfield Road, Wimbledon, was credited with the second prize for twelve incurred in this section, but the name of his gardener was not on the card, and also for twelve Japanese. In the amateurs' division he won easily both with incurred and Japanese, Mr. H. Trengrouse, Miss Toppin, and Mr. J. Terry also receiving prizes.

The groups were perhaps the best feature of the Show. Mr. G. Springthorpe, gardener to R. W. Alexander, Esq., Gifford House, Rochampton, had an admirable one, in which Japanese were the most conspicuous, the plants being healthy, and the blooms very fine. He was awarded the silver cup as first prize, and well deserved it. Mr. J. Dark, gardener to J. Hooker, Esq., Lomond House, Putney, also had a fine group, in which incurred were employed freely, and with excellent effect. This would have won at many shows. Mr. Portbury was third, and Mr. Methven fourth. Trained plants were well up to the average, if not a little above it. Messrs. Springthorpe, Pearce; C. Bentley, gardener to J. Bosworth, Esq.; J. Bentley, Portbury, Grounsell, and Townsend, Providence Nursery, Putney, were the principal prizewinners.

The groups of stove and greenhouse plants, the table plants, the Primulas, and the berried plants were excellent, and the fruit merited a special note, being exceptionally fine. Messrs. Wright and Knowles had some splendid dishes of culinary Apples, Winter Hawthornden, Blenheim Orange, and Alfriston being very fine. Mr. Methven also had some grand fruit of Lord Derby, Mère de Ménage, and Alfriston. Mr. J. Bentley was first with dessert fruit, his King of the Pippins being very fine, and Cox's Orange and Ribston excellent. Mr. Portbury was second, and Mr. W. Tew third. There was some high-class fruit in the unplaced dishes also. Mr. Wilson, gardener to R. Christie, Esq., and Mr. Methven showed Grapes finely, and Pears from Messrs. C. Alexander, J. Bentley, and G. Springthorpe were but little inferior to the Apples.

#### TAUNTON.—NOVEMBER 6TH.

CHRYSANTHEMUM Shows, strange to relate, are not so well supported at Taunton as might reasonably be expected, and although under a new management, or that of the Committee of the Summer Flower Show, with its two excellent Honorary Secretaries, Messrs. Howard Maynard and Alex. Hammett, no better encouragement appears to have been met with. As far as the exhibitors were concerned there was not much cause for complaint, cut blooms and fruit being particularly plentiful and good.

Two good groups of Chrysanthemums and Ferns were arranged, Mr. J. Bishop, gardener to Murray Anderson, Esq., being well first for capital cut-backs, a little too formally grouped though. Mr. H. Mockridge was a creditable second, the background of finely flowered varieties of Chrysanthemums being especially good. Mr. W. Cavill, gardener to H. F. Manley, Esq., had a first for six trained plants, any varieties, these consisting of such old favourites as Mdle. Laeroix, Bertier Rendatler, Elaine, Peter the Great, Lady Selborne, and Dr. Sharp in very good condition. Mr. J. Reed, gardener to F. J. C. Parsons, Esq., was first for six varieties of Ferns, Mr. F. J. Burge being second. Poinsettias were remarkably well shown by Mr. J. B. Payne, gardener to the Lord Bishop of Bath and Wells, and in a well-filled class for table plants Mr. B. T. James, gardener to Sir W. A. Lethbridge, Bart., was first, and Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Langport, was second. Primulas are always well shown at Taunton. For six plants Mr. J. Shepherd was first, Mr. W. Cavill second, and Mr. J. B. Payne third.

The silver cup value £5 with £3 added, offered for forty-eight cut blooms, twenty-four Japanese and a like number of incurred, eighteen distinct varieties of each, brought out four competitors, all staging creditably. However, the Judges had no great difficulty in awarding the premier honours to Mr. G. Hawkins, gardener to W. H. Fowler, Esq., who had a remarkably good lot, Japanese varieties being best represented. This fine exhibit consisted of Japanese, back row: Etoile de Lyon (2), Florence Davis (fine), R. Brocklebank, Mrs. C. W. Wheeler, Puritan, and Gloire de Rocher. Middle row: W. H. Lincoln, F. C. Kingston, W. W. Coles, Madame Baco, Sarah Owen, Eynsford White, Edwin Molyneux, and Avalanche. Front row: Souvenir de Angélie, Ariel, Aida, Mrs. J. Laing, Eynsford White, Golden Dragon (selected for special prize), Japonaise, Mrs. H. Cannell, and Louis Boehmer. Incurred.—Back row: Golden Empress of India (2), Princess of Wales (received special prize for premier incurred bloom), Lord Alcester, Queen of England (2), Golden Empress of India, Princess of Wales, and Mrs. Coleman. Middle row: Empress of India, Jeanne d'Arc, A. Salter, Lord Wolseley, J. Doughty, Princess of Wales, Lord Alcester, and Miss Haggas. Front row: Violet Tomlin, Lord Eversley, Cherub, Alfred Lyne, Jardin des Plantes, Mrs. Halliburton, Beauty of Hull, and Baron Beust. Mr. J. B. Payne was a good second, having a capital lot of incurred blooms, and a highly creditable lot of Japanese varieties, among which Sunflower, Boule d'Or, and Mrs. W. Clarke were the best. Mr. J. Lloyd was a close third; and Mr. Crossman, gardener to J. Bruton, Esq., Yeovil, fourth. The class for twenty-four Japanese varieties, for which the first prize was £5, was also a good one, though Mr. W. H. Fowler won rather easily, his stands being altogether faultless. The varieties were, back row: Etoile de Lyon, Florence Davis, Ralph Brocklebank, Puritan, Gloire de Rocher, Boule d'Or, Baronne Prailly, and E. Molyneux. Middle row: R. C. Kingston, a large handsome bloom, Souvenir de A. Amiel, Madame C. Audigui, Stanstead Surprise, Madame Baco, Avalanche, and W. H. Lincoln. First row: Louis Boehmer, Sarah Owen, Album Fimbriatum, Soleil Levant, Mrs. J.

Laing, Eynsford White, Mons. Bernard, and Mrs. H. Cannell. Mr. J. Lloyd was a creditable second, his stands comprising excellent blooms of Comte de Germiny, Meg Merrilies, Sunflower, Ralph Brocklebank, Volunteer, and Mons. Bernard. Mr. Crossman was third. With twelve Japanese blooms (this class not being open to exhibitors in preceding classes) Mr. C. P. Burge was well first, having Sunflower, Madame Laing, Moonlight, and A. H. Neve particularly good. Mr. H. Mockridge was second, and J. Golding, gardener to Dr. J. H. Mead, third. Exactly similar positions were occupied by these competitors in the class for six Japanese varieties. Mr. J. Lloyd was the only exhibitor of eighteen incurred varieties, and was deservedly awarded the first prize. Mr. Mockridge was first, and Mr. W. Connolly, gardener to J. R. C. Talbot, Esq., second for twelve incurred varieties. In Mr. Mockridge's first prize stand of six incurred was a very good bloom of John Lambert, Lord Alcester and Miss Haggas also being very fine. Reflexed varieties were not well shown, and the Anemone-flowered were quite neglected by the growers generally. The competition with blooms of any white flowered Japanese variety was close and good, Mr. J. Cording being first with beautiful blooms of Avalanche; Mr. Crossman following with the same variety, some lovely blooms of Eynsford White being passed over by the Judges. With six blooms of any other colour Mr. Crossman was first, with rather coarse Etoile de Lyon. Mr. C. P. Burge being second with richly coloured Sunflower. Other kinds of cut flowers were well shown by Messrs. H. Slocombe, gardener to E. Price, Esq.; C. P. Burge, J. Lloyd, and B. T. James, Sir W. A. Lethbridge, Bart.

A large room was wholly given up to fruit and vegetables, and the exhibits were both numerous and of high quality. For a collection of fruit Mr. J. Lloyd was well first, having Gros Colman, Mrs. Pince, and Alicante Grapes, a Queen Pine Apple, Coc's Golden Drop Plums, Hero of Lockinge Melon, Pitmaston Duchess Pears, Adams' Pearmain Apples, and Nottingham Medlars all in excellent condition. Mr. J. Reed was a creditable second, and Mr. Crossman third. Mr. W. Connolly had very fine Muscat of Alexandria Grapes and took two firsts with these. Mr. J. B. Payne was first for Alicante, and other successful exhibitors of Grapes were Messrs. J. Lloyd, G. Webber, gardener to J. Luttrell, Esq., and J. Reed. The principal prizewinners with Apples and Pears were Messrs. J. Reed, J. B. Payne, J. Laing, J. Crossman, Burge, James, J. Hill, and H. Littermore. With a collection of vegetables Mr. W. Cavill was well first; Mr. W. Greedy, gardener to Major Burton, second; and Mr. J. Bruton third. A capital collection of Apples and Pears was shown not for competition by Messrs. Jarman and Co., Chard.

#### CRYSTAL PALACE.—NOVEMBER 7TH AND 8TH.

THE annual Exhibition at Sydenham is invariably looked forward to as one of the events of the Chrysanthemum season; the substantial prizes offered induce good competition, and exhibitors feel there is some credit attached to "a victory at the Palace" beyond the mere pecuniary compensation. Then, too, there is plenty of space to display the various exhibits to the best advantage; "breathing room," so to speak, which those who have had experience in the cramped quarters assigned to some shows was fully appreciated. The Palace is, in fact, so admirably adapted for horticultural shows of all kinds that it would prove an irretrievable loss to the horticultural world if this institution were ever to be disassociated from such attractions and to degenerate into an establishment of the music hall character.

The Show on Friday and Saturday last was not in some respects the largest we have seen there, but in all-round even quality and close competition it would compare favourably with many of its predecessors. The cut blooms in several of the chief classes were extremely good, and have rarely been surpassed. The groups were excellent, and the specimen plants fully up to the standard. Besides these, several important non-competing exhibits were shown, and the groups of Chrysanthemums grown in the Palace gardens were by no means the least attractive part of the display. One group of the latter, in fact, arranged in a semicircular form near the magnificent Tree Ferns at the opposite end of the building, evoked the admiration of both visitors and Judges.

In the cut bloom classes that for forty-eight always attracts the most interest, and the winning collection well deserved its position, the incurred blooms being particularly handsome, but why the exhibitors disfigured the stands by affixing prominent bright yellow name-cards to the front it is difficult to understand; it was one of the worst examples of bad taste we have seen, and it is to be hoped will not be repeated by them or imitated by others.

Of the seven stands of forty-eight cut blooms, twenty-four incurred and twenty-four Japanese, not less than eighteen varieties each, that from Messrs. W. & G. Drover, Fareham, was first, their blooms being distinguished by their substance and bright fresh colours. The incurred varieties were as follows—Back row: Empress of India, Lord Alcester, Alfred Salter, Emily Dale, Lord Alcester, Alfred Salter, Empress of India, and Emily Dale. Middle row: Mrs. E. Coleman, Prince Alfred, John Doughty, Queen of England, John Doughty, Golden Empress, Lord Wolseley, and Miss M. A. Haggas. Front row: Empress Eugénie, Jeanne d'Arc, Mrs. N. Davis, Violet Tomlin, Mrs. E. Coleman, Princess of Wales, Mrs. W. Shipman, and Nil Desperandum. Japanese—Back row: Etoile de Lyon, W. H. Lincoln, Mrs. C. Wheeler, Etoile de Lyon, Sunflower, Alberic Wunden, Stanstead White, and Mrs. C. Wheeler. Middle row: Sarah Owen, E. Molyneux, Stanstead White, Jeanne Délaux, Puritan, E. Molyneux, Madame Baco, and Mons. Bernard.



Front row: Boule d'Or, Louis Boehmer, Mrs. F. Jameson, Ralph Brocklebank, Mons. Bernard, Pink Lacroix, W. H. Lincoln, and Condor. The second place was taken by Mr. E. Whittle, gardener to C. H. Goschen, Esq., Ballards, Addington, with fine Japanese and good incurved. Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park, Surrey, was a good third with very neat blooms, the Japanese particularly bright; and Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley Cottage, Croydon.

The competition was very keen with twelve Japanese, and the three leading collections were very close together in merit, only separated by a few points. Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, won first honours with handsome examples of Etoile de Lyon, Avalanche, Sunflower, E. Molyneux, Boule d'Or, Val d'Andorre, Stanstead White, Madame C. Audiguier, M. Bernard, Puritan, Madame Baco, and Ralph Brocklebank. The second place was taken by Mr. J. Hughes, gardener to H. F. de Paravicini, Esq., Heathfield, Bracknell, Berks. Mr. G. Carpenter, gardener to Major Collis Brown, Broad Oaks, Byfleet, was a good third, and there were eight other unsuccessful exhibitors who staged most creditably.

Twelve stands of six Japanese (one variety) were shown. Mr. C. Cox, gardener to J. Trotter, Esq., The Grange, Buckenden, Hertford, leading with grand blooms of Avalanche. Mr. G. Glen, Worth Park Gardens, Crawley, and Mr. Goodacre, Elvaston Castle Gardens, Derby, following closely with the same variety.

In the class for eighteen reflexed and Japanese reflexed there were two exhibitors. Mr. H. Felgate, Burhill, Walton-on-Thames, took the lead with very fresh blooms of Maiden's Blush, Cullingfordi, Temple of Solomon, J. Delaux, Golden Christine, Phidias, Amy Furze, L'Adorable, Fred Hart, King of the Crimson, Peach Christine, President Hyde, Elaine, Cloth of Gold, Dr. Sharpe, Val d'Andorre, White Christine, and Pink Christine. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, was a close second.

The best stand of eighteen Japanese Anemones came from Mr. W. Green, Hadley Manor Gardens, Barnet, who had excellent blooms of Jeanne Marty, Mrs. Judge Benedict, Gladys Spaulding, Madame R. Owen, Nouvelle Alvéole, Cincinnati, Lady Margaret, Gluck, Fabian de Mediana, Souvenir de Madame Blandinières, George Sand, Nelson, Grande Alvéole, Madame C. Leboeuz, Mdle. Cabrol, Miss A. Lowe, and Acquisition. Mr. Salter was second, and Mr. J. Justice, gardener to C. S. Howitt, Esq., The Firs, Norton, Worcester, was third, both showing well.

With twelve Pompons Mr. Salter was first, showing excellent blooms of Golden Mdle. Marthe, Curiosity, Black Douglas, Elise Jordan, Rosinante, La Vogue, Prince of Orange, St. Michael, Pygmalion, Dupont de l'Eure. Messrs. Bowman and Slade followed closely in the order named. Mr. Salter was also first with twelve Pompon Anemones, very neat blooms, Messrs. Slade and Chadwick being second and third. Mr. W. Green had the best twelve Japanese Anemones, and Mr. Justice was second.

The singles were very attractive, Mr. Carpenter having an excellent first prize stand of twelve, showing Jane, Lady Churchill, White Perfection, Sir T. Symonds, Miss Bates, Lutea, America, Patience, Alba, Yellow Jane, Mary Anderson, and Mrs. Langtry. Mr. Wells of Redhill was second, and Mr. Chadwick third.

Eight stands of twelve incurved were staged, and Mr. Hughes secured the first prize with good blooms of Alfred Salter, Miss M. A. Haggas, John Salter, John Lambert, John Doughty, Mrs. Heale, Lord Wolseley, Violet Tomlin, Queen of England, Jeanne d'Arc, and Empress of India. Messrs. Felgate and Douglas were second and third. The best eighteen incurved were shown by Mr. Goschen, Messrs. Cox and Carpenter being second and third, but the blooms were not so good as in the other classes. With six incurved (one variety) there were ten exhibitors. Mr. H. Turner, gardener to F. Murray, Esq., Woodcote Hall, Epsom, was first with beautiful blooms of Princess of Wales, Mr. Felgate being second for Queen of England, and Mr. Douglas third with Empress of India.

Specimen plants were well shown, and the chief prizes were taken by the following exhibitors:—Mr. E. Cherry, gardener to Mrs. Gabriel, Norfolk House, Streatham; Mr. R. Clark, gardener to W. Griffiths, Esq., 12, Palace Road, Streatham, S.W.; Mr. W. Wesker, Tooting Bee Road, Upper Tooting; Mr. J. Weston, gardener to J. Martineau, Esq., South Road, Clapham Park; Mr. W. Carr, gardener to Mrs. Stephenson Clarke, Croydon Lodge, Croydon; and Mr. G. H. Cooper, Sydenham Road, Croydon.

Groups were excellent, and the prizes went in the order named. Collection, arranged for effect in group not less than 100 square feet, incurved varieties only. (To be faced with Pompon, Ferns, or Palms.) First, Mr. J. Townsend, Providence Nursery, Putney; second, Mr. H. J. Jones, Ryecroft Nursery, Lewisham; and third, Messrs. Mobsby & Sons, 147, Moffat Road, Thornton Heath. Collection, arranged for effect in group not less than 100 square feet, Japanese varieties only. (To be faced with Pompon, Ferns, or Palms.) First, Messrs. Reid & Bornemann, nurserymen, Sydenham; second, Messrs. J. Carter & Co., 237, High Holborn, and Forest Hill, S.E.; and third, Mr. H. Loader, Fairlawn Park Nurseries, Sydenham. Collection, arranged for effect in group not less than 50 square feet, any sort. To be faced with Ferns and Palms. (Amateurs only.) First, Mr. R. Illes, gardener to Rev. C. H. Spurgeon, Westwood, Beulah Hill, Upper Norwood; second, withheld; third, Dr. Hetley, Norbury Lodge, Upper Norwood; extra, Mr. T. W. Wilks, gardener to C. Ralph, Esq., Cranbrook Villas, Fox Lane, Upper Norwood.

Non-competing exhibits were numerous. Messrs. J. Laing & Sons,

Forest Hill, had an extensive and attractive display of Chrysanthemums and 100 dishes of Apples and Pears. Messrs. Cannell & Sons, Swanley, sent a stand of twenty-four fine blooms of Chrysanthemum Louis Boehmer and plants of the dwarf Japanese W. B. Clarke. Messrs. J. Carter & Co., Holborn, showed some beautiful novelties, several of which were certificated.

Other varieties were also found worthy of special awards (certificates or commendations)—namely, the following:—Mr. T. Mursell for the Japanese Kate Mursell; Mr. H. Loader for the Japanese Louis Boehmer; Mr. W. Wells for Kate Wells and May Wells; Mr. C. E. Shea for Japanese W. W. Coles and W. H. Lincoln; Messrs. J. Carter & Co. for Japanese Seedling Holborn Rose, single seedlings Holborn Terra Cotta, Holborn Sunray, Japanese Louis Boehmer, decorative Japanese Mrs. James Carter, Holborn Dragon, Alberic Lunden. Commended, incurved Miss Bella Wilson; Messrs. H. Cannell & Son for Japanese Colonel W. B. Smith and Louis Boehmer; Mr. H. Jones for Japanese Louis Boehmer. Commended:—Dr. Walker's Chrysanthemum Cup and Tube, and Mr. Roberts' Silver Lichen.

#### ST. NEOTS.—NOVEMBER 9TH.

THE annual Chrysanthemum festival in this quaint and quiet town is one of the most stirring horticultural events of the year for the district, and not only are the townsfolk attracted to it in considerable numbers, but many journey a distance from neighbouring counties to be present at so pleasant a gathering. A most commendable earnestness distinguishes the amateur and professional horticulturists, and guided by so genial and energetic a Secretary as Mr. Ratchelous, satisfactory success has been achieved for some years. At the Show under notice substantial progress was manifest, especially in the cut bloom classes, where the competition was extremely keen, and the exhibits very close in merit, a few points only separating the prizetakers. The principal class in which general interest centres was that open to the United Kingdom, in which a silver challenge cup was offered. This was for thirty-six blooms of Chrysanthemums, eighteen to be incurved, in not less than twelve varieties; eighteen to be Japanese in not less than twelve varieties, not more than two blooms of any variety allowed. The prizes were: First, a silver challenge cup value 10 guineas and 60s. in money; second, 30s.; third, 20s.; fourth, 10s. "The challenge cup must be won by the same exhibitor twice in succession, or three times in all, before it becomes his property, but on giving a written acknowledgement for the same the winner for the year (except it be finally won) may hold it up to fourteen days of the next Show, when it must be returned to the Society in perfect condition. The winner of the cup for 1890 was Mr. R. Petfield, gardener to A. J. Thornhill, Esq., Diddington, Huntingdon." There were five entries, and after a most careful consideration the Judges awarded the coveted prize to Mr. Petfield for handsome blooms, of which, however, the Japanese were much the best, and to them he was indebted for his victory, only leading by two points.

The varieties were—Incurved: Queen of England, Alfred Salter, Mrs. Coleman, John Doughty, Empress of India, Prince Alfred, Golden Empress Alfred Lyne, Mrs. Heale, Alfred Salter, Lord Alcester, John Doughty, John Lambert, Violet Tomlin, Empress of India, Queen of England, Golden Empress, and Lord Wolseley. The Japanese were Avalanche, Etoile de Lyon, Ralph Brocklebank, Madame C. Audiguier, Annie Hartzhorn, Mrs. C. W. Wheeler, Boule d'Or, E. Molyneux, Avalanche, Etoile de Lyon, Puritan, M. Bernard, Stanstead White, Baronne de Prailly, Boule d'Or, Mrs. C. W. Wheeler, Meg Merrilies, and Val d'Andorre. Mr. Myers, gardener to the Earl of Sandwich, was a very close second, both incurved and Japanese being extremely fresh, even, and creditable. Mr. R. Adams, gardener to W. P. Hartes, Esq., Market Harboro', was third. Mr. W. H. Lees, gardener to the Duchess of Montrose, was fourth.

Mr. Myers was first with twelve incurved blooms, showing Queen of England, John Lambert, Empress Eugénie, Golden Empress, Alfred Salter, Jeanne d'Arc, Lord Wolseley, Lord Alcester, Princess Beatrice, Empress of India, Prince Alfred, and Mrs. Shipman. Mr. Petfield was a close second, and Mr. G. Cotton, gardener to A. W. Lines, Esq., Hitchin, third with twelve Japanese. Mr. Lees took the lead with fresh, good blooms of the following:—E. Molyneux, Avalanche, Gloriosum, Madame Audiguier, Sunflower, Mrs. Alpheus Hardy, Stanstead White, Gloire de Rocher, Louis Boehmer, Etoile de Lyon, W. H. Lincoln, and Lady Lawrence. Messrs. Petfield and Myers were second and third respectively.

In other cut bloom classes Mr. Myers was very successful, taking the premier prizes for twelve reflexed with excellent blooms, for twelve large Anemones and twelve Pompons; Messrs. Redman and Lees securing second and third prizes in the reflexed class. An admirable group gained the chief award for Mr. Redman, the best specimens really well grown examples both of large flowered and Pompon Chrysanthemums won the honours for Mr. Stone, gardener to R. Cochrane, Esq. With a most tasteful basket of Chrysanthemums Mr. Thomas, gardener to Lord Esme Gordon, won the leading prize in that class, and Mr. Myers gained similar honours for a table decoration, followed by Mr. Thomas.

Miscellaneous plants, fruit, vegetables, and cottagers' productions were well represented in numerous classes.

#### HORSHAM.—NOVEMBER 10TH AND 11TH.

BRIGHT, varied and beautiful in all respects was the Exhibition of Chrysanthemums opened in the Drill Hall, Horsham, on Tuesday last. Very rarely are provincial shows of the same extent found to present such a uniformity of good quality and close competition; it was indeed throughout highly creditable both to the Society and the district. Cut blooms were shown in large numbers and of excellent quality, especially



the Japanese, which were very fresh; the incurved in a few cases had suffered a little, the date being somewhat later than usual. Groups and specimen plants were not largely shown, but the leading exhibits in both cases were uncommonly good. Fruit and vegetables were included in the attractions, and the hall was well filled, much taste being shown in the arrangement. For example, the walls behind the groups and specimen plants were draped with dark maroon cloth, and the result was that the colours were seen to admirable advantage. In another matter an arrangement was noted that might well be imitated elsewhere. The Hon. Secretary, Mr. S. Mitchell, who very closely studies the interests of the Society, has designed a neat name card, which is supplied to all the exhibitors of cut blooms, and which is readily affixed to the fronts of the stands before each transverse row of three blooms, thus avoiding the damage done to the blooms, often resulting from attempts to see the names on labels placed on the boards next to each bloom. "The Mitchell Chrysanthemum name card" is useful, neat, and inconspicuous.

We cannot deal with the numerous exhibits fully this week, but the following must be mentioned. With twenty-four incurved blooms, not less than eighteen varieties, Mr. G. Duncan, gardener to C. L. Lucas, Esq., Warnham Court, was the leading exhibitor, staging even examples of Empress of India (2), Miss M. A. Haggas, Mrs. Heale, Violet Tomlin (2), Queen of England, Venus, Lord Alcester (2), Beethoven (2), John Lambert (2), Princess Beatrice, Prince Alfred, Jeanne d'Arc, Princess of Wales, Jardin des Plantes, St. Patrick, Golden Empress of India, Lord Wolsley, and White Venus. Mr. Sparkes, gardener to C. Allcard, Esq., Wimbleshurst, Horsham, and Mr. W. Wallis, gardener to T. J. Mews, Esq., Hartwell, Hartfield, were second and third respectively, each showing well. Mr. G. Duncan was also first for twenty-four Japanese (distinct), exhibiting capital blooms of Stanstead White, Stanstead Surprise, Golden Dragon, Baronne de Prailly, Sunflower, Madame Baco, Ralph Brocklebank, M. Bernard, Thunberg, Condor, J. M. Pigny, J. Delaux, A. H. Neve, Soleil Levant, E. Molyneux, Avalanche, Madame J. Laing, W. G. Drover, Val d'Andorre, H. Cannell, Etoile de Lyon, Meg Merrilies, and Marsa. Mr. T. Glen, gardener to Mrs. Montefiore, Worth Park, was a close second, and Mr. Sparkes third.

Mr. G. Goldsmith, gardener to Sir E. J. Loder, had the best twelve incurved, followed by Messrs. Pullen and White. Mr. Edwards took the lead with twelve Japanese in an excellent class. Mr. Glen and Mr. Duncan also shared the honours in several other classes.

Mr. F. Edwards, gardener to A. Agate, Esq., Horsham, exhibited the best group, a most tasteful arrangement of well-grown plants; and Mr. Sparkes was first with four specimen plants and a single specimen—handsome contributions.

The chief fruit exhibitors were Messrs. Duncan, Glen, White, and Kemp, who staged Grapes, Apples, and Pears in the various classes. Messrs. Sutton & Sons' prizes for vegetables also brought several fine collections.



#### HARDY FRUIT GARDEN.

**PLANTING.**—Proceed with this as fast as possible now, before winter weather commences. Fruit trees are full of leaf yet, but no harm can possibly ensue from moving them at once, and if replanted without delay they will make fresh roots and thus get a much stronger start in the spring. If new orchards are in contemplation they should have attention first, but do not plant in any low situation, as such places are often liable to a superabundance of water, which induces canker and all kinds of disease, and they are sure to feel the effects of spring frosts much more than higher ground would do. A gentle slope to the south or south-west is the best position if it can be had. Extensive operations in the preparation of the soil are not necessary in the majority of cases. Manure is not required when planting fruit trees, no matter how poor the soil is, as a tree when freshly planted has all its roots severed or otherwise injured, and is not in a position to appropriate rich food; its first business is to make fresh roots, and then after a time it is ready for feeding according to circumstances.

Draining will occasionally be necessary, and should always be completed as soon as the trees are planted if not previously done. The drains should run right up the centre of the spaces between the rows, or they will soon be choked by the roots and be worthless. Anyone can easily tell whether draining is necessary by forming a hole 18 inches deep in wet weather, loosening the bottom slightly with a fork, and leaving it for a few hours. Examine it again after there has been at least four hours' fine weather; if water is standing in the bottom of the hole it is not a suitable site for planting fruit trees, and must either be improved or abandoned. Shelter should also be secured from the north and north-east if possible; if none exists plant Larch and Spruce Firs and a few English Elms or Poplars among them, but these must not be placed too near the fruit trees, or the forest trees will have the lion's share of the nourishment. Apples are not very particular as to what kind of soil they have if the above conditions are secured, but it is not well to plant them in very light or chalky soils, as the fruit in these places

will be very small. Pears will not succeed in such soils either; a good supply of moisture at all times is absolutely essential to their well-being, and a deep alluvial loam suits them best of all. For planting in comparatively dry positions this fruit should always be worked on the Pear stock, and for places where moisture is more abundant the Quince stock is the best for most varieties, especially for dwarf trees and pyramids. In all places much exposed to the wind it is best to grow pyramid or bush-shaped trees instead of standards, as the fruit on these dwarfier trees is more secure if a gale of wind comes.

Plums and Cherries will give good returns in certain places where Apples and Pears would be of no use whatever; these fruits must have a certain amount of limestone or chalk in the soil, or they fail to stone when the time comes. Plums are not so particular as Cherries in this respect, and will succeed in sandy soils where Cherries are often of no use whatever. When planting Cherries it is also advisable to consider whether they can be protected from birds, as in some parts of the country it is quite impossible to get a crop from them owing to the ravages of starlings and jackdaws.

In planting fruit trees let the holes be dug at least a little wider than the spread of the roots, so that all may be laid out evenly all round; do not plant deeper than the trees have been growing previously. The surface line will be plainly marked on each stem. Loosen the bottom of each hole before putting the tree in position, scatter a little sweet-surface soil over the roots in preference to that which has been dug out of the hole; cut off all the ends of the roots smoothly before putting in the tree. Remove all those that strike straight downwards, also all suckers. If the soil is wet do not tread it into the hole, but place it in as firmly as possible with the spade. All newly planted trees should be mulched at once with some short straw, half-decayed leaves, chopped hop bines, or some similar material to keep out the frost and encourage root growth as much as possible. Rich manure is not required, and is mostly wasted if used for this purpose at such times, but that fresh from stables where straw is used for bedding will do capitally. Stake all trees as soon as planted, do not give them a chance to rock about by the wind, churning the soil and straining their roots. Place a piece of old sacking, or gutta percha hose split open, around the stems before tying any strings on, to prevent injury to the bark. If any trees should get their roots frozen place them in a cool shed or cellar until a thaw takes place. Never plant when it is freezing or when snow is on the ground, and never let any roots get dry from any cause when removing and replanting trees.

**VARIETIES TO PLANT.**—In selecting these much depends on soil and situation and the purpose for which they are required. If for market they must be either early or late varieties, large, of good colour, good croppers, and good packers. For private use the aim should be first of all to have a continuous supply, and next to get good flavoured varieties, colour and size being minor considerations. The locality often makes much difference, especially with Apples and Pears. A kind that does well in one part will not succeed in another, and the best way is to notice what does well in the neighbourhood, or to consult some reliable authority. This answers far better than going to exhibitions and taking the names of the finest looking fruit, which is apt to be very misleading.

The following are some of the most useful and reliable varieties:—Apples for kitchen use: Lord Suffield, for warm soils only (if soil is cold plant Keswick Codlin instead); Lord Grosvenor, Ecklinville, Manks Codlin, Golden Noble, Cox's Pomona, Warner's King, Lane's Prince Albert, Stirling Castle, Winter Hawthornden, Blenheim Pippin, Northern Greening, Wellington, Bramley's Seedling, Alfriston. Apples for dessert use: Mr. Gladstone, Williams' Favourite, Duchess of Gloucester, Worcester Pearmain, Wyken Pippin, Cox's Orange Pippin, Herefordshire Pearmain, Golden Knob, Duke of Devonshire, Barnack Beauty.

Plums: Early Rivers, Early Orleans, The Czar, Victoria, Grand Duke, Pershore, Oullins Golden, Kirke's, Jefferson, Reine Claude de Bavay, Purple Gage, Coe's Golden Drop. The last six require a wall in cold districts.

Pears: Beacon, Beurré Giffard, Williams' Bon Chrétien, \*Beurré d'Amanlis, \*Madame Treyve, Fondante d'Automne, Emile d'Heyst, Durondeau (for warm climates only), Louise Bonne de Jersey, \*Doyenné du Comice, Marie Louise, \*Pitmaston Duchess, Passe Colmar, Winter Nelis, Glou Morceau, Bergamotte Esperen, Ne Plus Meuris, Easter Beurré. Those marked (\*) are the hardiest varieties, and do best as standards, and for the latter purpose may also be added Beurré de Capiaumont, Beurré Clairgeau (not rich dessert varieties), Beurré Diel, and Hesse. Cherries: Black—Early Rivers (rather tender), Black Tartarian, and Black Eagle; white—Elton, Governor Wood, Bigarreau Napoleon, Morello, Kentish, Flemish, and Old Morello.

#### FRUIT FORCING.

**VINES.**—*Early Forced Vines in Pots.*—Stout, well-ripened canes, with plump buds, and given a short rest, only answer for early forcing. The Vines require a light, airy, efficiently heated structure, which may be a lean-to facing south, or a span-roof with the ends east and west. A lean-to of 6 feet width will accommodate one row of Vines in front; a span-roof of 10 feet breadth may have plants at each side. If the hot-water pipes are at the front of the lean-to and at the sides of the span-roof the Vines may be stood upon them, placing tiles or slates on the hot-water pipes, and standing the pots upon them. The tiles or slates become warmed and transmit the warmth to the pots, which are kept more or less warm at their base, and the roots are not prejudiced



by the heat. The tiles or slates throw off much of the water or liquid manure supplied to and escaping from the pots, so that there is no risk of a surfeit of steam, and the water running on the floor keeps up a genial moisture as well as affording ammonia to the atmosphere when liquid manure is used. Span-roofed pits or lean-to pits facing south, and having sunk paths in the centre or at the back of lean-to or three-quarter-span, and beds in which fermenting materials may be placed, answer admirably, contingent on their having the necessary hot-water pipes to afford top heat for forcing Vines in pots. Pedestals of loose bricks should be formed in the beds so as to raise the pots to the requisite height and prevent sinking, as would be the case were the pots stood on the fermenting material. This is essential, whether the Vines are trained to trellises at 12 to 15 inches distance from the glass or coiled round stakes where there is no trellis, or the Vines are required for decorative purposes when the fruit is ripe. Vines in pots, and restricted there to afford excellent fruit with judicious feeding, but if weight and quality of Grapes are desired the apertures in the pots should be widened, and some turfy loam placed within reach of the roots. The loam may be placed against or on the pedestals of loose bricks, and the roots will follow the liquid manure given, and the turf hold its manurial elements so that the roots will send up plenty of support for the Vines. Oak or Beech leaves are the best to afford bottom heat. They afford a genial warmth and regular moisture in the early stages, and rich stimulating food when the demands of the Vines are greatest. The house must now be ready, and the plants placed in position. The canes should be kept horizontally, or have the ends depressed, if necessary, to insure their breaking evenly from the base upwards. For early work none is better than Black Hamburg and Foster's Seedling. White Frontignan forces grandly, and Madresfield Court is excellent. Vines started now will afford fruit fit for table in April, or by a little earlier with sharp forcing.

*Early Forced Planted out Vines.*—To have ripe Grapes with certainty early in May, the house must be closed by the middle of the month. This more particularly applies to young and vigorous Vines that do not, as a rule, start into growth so quickly as those that have been forced for a number of years. This applies equally to Vines that have not previously been subjected to early forcing. To produce a soft humid atmosphere, and to economise fuel, a good ridge of fermenting material may be placed upon the floor or inside border and be turned at short intervals, additions being made as the heat declines. Old Vines will not need depressing, but it is a good practice to lower them until the buds break before securing them to the trellis. This is not necessary when the Vines are spur-pruned, unless they are young; then the Vines will need to be brought into a horizontal position over the hot-water pipes or fermenting material where they can be well syringed with tepid water about 10° warmer than the house. The temperature of the house may range 50° at night, 55° by day, and 65° on bright days. The outside border should be protected from wet and frost by a covering of leaves and lights, or by other approved means.

*Houses Cleared of Grapes.*—Attend to the pruning directly the Vines are leafless and the Grapes cut. If the Vines are vigorous, have made stout short-jointed wood, thoroughly ripened, and the buds plump, they may safely be pruned to a couple of buds. If, however, the lowest buds are small, and the Vines have not from similar buds in previous years shown fruit as freely as desirable, or not given bunches as large as desired, the shoots may be left a little longer, pruning, in all cases, to a plump bud or thoroughly ripened wood. The pruning bud should be round (not flat), as that affords a close compact bunch of well set berries with stout footstalks, and these generally finish well. Flat buds usually furnish large uneven bunches of Grapes, the berries setting unevenly and swelling irregularly, rarely colouring satisfactory. Pointed buds, as a rule, are not prolific in Grapes, the "shows" having a tendency to develop into tendrils. The house should be thoroughly washed, the glass cleaned inside and outside. Free the Vines from loose bark, avoiding close peeling and scraping, and cut away all "snags." Wash the Vines with soapy water, 3 ozs. softsoap to a gallon of water, using a brush, and reaching well into every angle and crevice with care and judgment. Limewash the walls, painting the house and trellis if necessary. Remove the mulching or loose soil down to the roots, and place on a couple of inches thickness of fresh loam, mixed with a tenth of quicklime, a quart of steam bonemeal being added to every barrow-load of loam, and about double the quantity (2 quarts) of wood ashes. If the loam be light add some clay marl dried and reduced to powder, mixing it with night soil. If the roots are deep raise them nearer the surface, and lay them in fresh material, such as the following. Turfy loam cut 3 inches thick and chopped up rather small have ten barrow-loads, and add to it one barrowful of old mortar rubbish, two bushels of charcoal broken moderately small, one bushel of wood ashes, half a bushel of soot, and half a bushel of bone meal. If the loam be light add three bushels of clay marl. Incorporate all the ingredients well together. The compost may be used as a surface dressing, as it is good alike as a rooting and feeding area. If the houses must be used for plants they should be kept cool, admitting air freely, not exceeding 40° to 45° by artificial means. Admit air freely on all favourable occasions, and where there are no plants keep the house open in all but very severe weather, a few degrees of frost not injuring the Vines.

#### TRADE CATALOGUE RECEIVED.

Thomas Laxton, Bedford.—*List of Novelties.*

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### BEES AT HOME.

THE weather up till the 24th October was very unpropitious, and bees carried little pollen, but in the intervals between the rains they did their best, and I never experienced bees having so great a desire to carry pollen as they showed in October. How is this? Had they too little stored for spring use, or have they by the eccentric season been lured into the feeling that spring and finer weather was approaching? Judging by their actions we should be inclined to think so, because some of my stocks have bred to an enormous extent, quite out of the ordinary, but the most remarkable thing is they are making no attempt to kill off.

#### THE DRONES.

These, and the excess of worker brood, indicates in every way they are preparing to swarm. Hitherto, I have believed that bees know the coming weather long before any instrument indicates a change; and to some extent I have wondered if killing, or preserving their drones for long before a change, does not support that belief. A few years since we had drones preserved in the hives till the following spring. A good year followed. And in 1890 they killed their drones in June, and we all know what occurred since then.

When at the Heather I watched anxiously to see the progeny of all my stock hives. One fine day I was pleased to see young bees in every one, and could easily detect the cross or the purity of the breed; one showing the Punic blood, another the Syrian, and another the Ligurian, and so on; for those who are acquainted with the pure races can tell at a glance what the cross is. But on an investigation being made after I had them home not one of them had a laying queen. One Carniolian swarm showed at the moors yellow-banded Syrian bees, and I was about presenting this queen, as I had plenty of crosses, but delayed, and kept it to make up the deficiency of queens in my own apiary. Now instead of this queen producing Syrian crosses there had not been a bee brought forth, nor until the 24th October did I see the progeny of a pure Carniolian queen.

The curious part is what induced the young bees of other queened hives to enter others standing from 20 to 40 yards distant. I cannot understand. It could not be robbing, as it is the old bees that do this; but perhaps the young bees may have been acting as spies only.

#### QUEEN CELLS.

A hive was deprived of all its bees except twelve, and placed in an outhouse for eleven days. When this hive was taken into the house to have the honey extracted, the twelve bees were clustered round a queen cell they had raised in their confinement, and on the capping of the cell being raised a beautiful queen crept out.

#### PUNIC BEES AGAIN.

Although your readers have had my experience pretty fully up to date of these interesting bees, there is still important evidence to give. I have not yet proved that an equal number of Punics and any other variety will surpass the latter in honey gathering; but have proved that the Punics will overtake other varieties in two months' time, although far behind at first. This alone is a valuable trait in the Punic bee, because if some flowers in the field, orchard, and garden depend upon bees for their fruitfulness, then the Punic bee is the most useful.

Of all the bees that have been introduced into this country none has been maligned half so much as the Punic has, and by people who had no experience whatever of them, but who were



morally bound to purchase them, put to test, and speak the truth about them so that all might learn and know. We ought to fall at once into the right track and be of one opinion without so much conflicting evidence so common in this country, as well as in America, not only on the Punic, but on other varieties as well. I have sought in vain for samples of the so-called fine yellow banded Italian bees of America. To say "there is no difference between Carniolians, Italians, Syrians, or Cyprians" is as amusing as it is absurd. Space cannot be afforded for a tithe of what has been said for and against the Punic bees, but the following can scarcely be omitted.

Dr. Miller of America says, "As yet I can only say that in appearance they are decidedly different from all other bees I have seen." Mr. A. L. Root says, "If nobody had told me that they were Punic, I should have unhesitatingly declared that they were ordinary black bees," adding, however, "very likely they are a little smaller than most strains of blacks, but in no respect can I discover at present writing that they are different," and cautions his readers against them by calling to mind the experience of the Cyprians, Holy Lands, Carniolians, &c., all of which I found to be good honey gatherers when managed properly. Mr. E. L. Pratt, also of America, gives his experience of them much as I have found them to be.

Mr. Wm. Cowan gives a very bad account of African bees in general, but says, "We know nothing about the so-called Punic bees," and thinks it "strange that we have never found such a race alluded to" in what he claims "the largest libraries of bee literature in the kingdom." And he further disparages them by giving the lexicon meaning of the word Punic, forgetting in his zeal that the word has other meanings in other languages, and might as easily be construed into great value, as well as faithless and treacherous, winding up with an advice to wait for their own interest what experienced bee-keepers have to say about them, promising that he will "give reliable information when it comes to hand." Mr. Cowan might for once purchase a queen for experimental purposes, as probably he will rely more upon his own than other persons' evidence. Contrary to reports that the Punic bee did not gather honey, and that it was a worthless bee, it has proved itself a good honey gatherer, and I am in the belief that it will prove itself, in a good season, to be a superior bee in every respect. At home it is mild tempered, and does not offer to be spiteful. I observe they will resent an injury, but they do not seem to get all excited at once, never more than one bee attacking at a time, and this was their character at the Heather. Only one bee offered to sting at a time, but another followed, and they were unlike some other varieties, which attack by the thousand as the Syrians sometimes do.

A friend, who has his bees upon the banks of Loch Lomond, and about four miles from Ben Lomond, one of the finest districts in Scotland for bees, failed for many years to get a yield of honey from the Ligurians which the Carniolians has given for the last fifteen years, and he introduced the Punic into his apiary in 1890. This year he has the two varieties standing side by side. As we all know, it has been a poor bee year, yet he has had a good yield from both Punic and Carniolians, being alike pleased with both, the difference being the Punic were handicapped, the queens of his best gatherers being put to depopulated queenless hives in June, and were pitted against swarms and unswarmed stocks. The Punic entered their supers at once, and one of them filled two 20 lb. supers, and another a 24 lb. one of Heather honey; none of these, nor of the Carniolians, is thoroughly sealed, but the latter the more so, but much less in them. My friend said that although both varieties apparently worked equally, he was of opinion had the weather been favourable the Punic would have far excelled, and the appearance of the supers which passed through my hands proved this, and were paragons of beauty and neatness. Propolis, I saw none of it.

It astonishes me very much to hear youthful bee-keepers

speaking of the original British bee, and comparing it in colour similar to the Punic. The former in its purity, probably, they never saw. They are widely different in shade, and there is as great a difference in their hum, the Punic having the highest note of any variety I have heard. As winterers I have had no experience yet with the pure breeds, but the crosses are as good as any, and the best honey gatherers.—A LANARKSHIRE BEE-KEEPER.



\* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**National Chrysanthemum Society's Catalogue (J. B.).**—We understand that it is not intended to publish a new edition this year, nor have the Committee proposed to issue an appendix or supplement to the existing centenary edition.

**Louis Boehmer and Mrs. Alpheus Hardy Chrysanthemums (W. J. N., and Others).**—We have so many notes descriptive of the constancy of the former as compared with the latter, that we cannot at this time of pressure find space for their insertion. The fact is established that the one is as free as the other is "miffy." It is perhaps true, as "W. J. N." suggests, that "those who recommend smaller pots and lighter compost for Madame Alpheus Hardy than are generally used for other varieties, give sound advice."

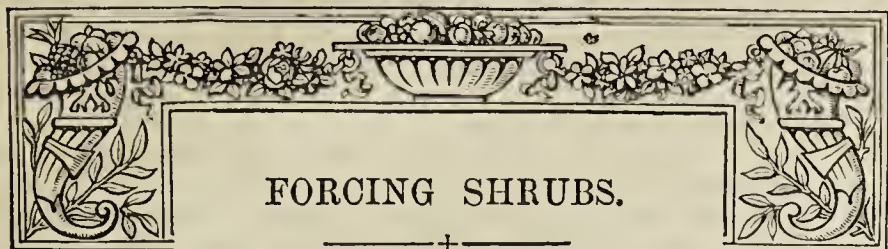
**Grubs in Flower Beds (J. H. W.).**—These are the larvae of the common and troublesome weevil, *Otiorhynchus sulcatus*, which feed without any interruption during the autumn and winter months, attacking a great variety of underground stems and roots. The proper application of gas lime to the soil is always serviceable, and a dressing composed of equal proportions of quicklime, soot, and wood ashes has been highly recommended by some who have tried it. Some have advised abundant watering with clear lime water, or the use of a very dilute solution of petroleum with a portion of softsoap added.

**Late Grapes not Finishing Well (W. W.).**—This usually arises through too late starting, overcropping, or a bad condition of the roots. If the first, nothing will be gained as regards the Grapes by sharp firing, and it will do no good after the wood is ripe, but that must be effected under any circumstances, yet it will not prevent the Grapes shrivelling when the leaves fall. When the defect in finish is due to overcropping, relief should be given the Vines by cutting a portion of the crop at the earliest convenience; but where it can be traced to imperfect drainage or bad borders no time should be lost in getting out the old soil, rectifying the drainage, and relaying the roots in fresh compost and near the surface.

**Appointments in Gardens (A Young Gardener).**—It is difficult to fix upon the best time for "a young man to get a situation as second or third in a large establishment," as such are often bespoke long before they become vacant. Many changes are made in late summer, and the most vacancies probably occur in the spring through journeymen then changing, and we should say that from the New Year to April inclusive is the most likely time for you to meet with an appointment. The chief thing is to make your requirement known, and afford evidence of qualifications in proper time to quarters through the agency of which such places as that you seek are filled. Advertising is often a means of securing places of the nature desired, and in some cases it is necessary to give a premium or take a low wage for the privilege of gaining experience.

**Removing Stable Manure and Leaves from a Vine Border (A Subscriber).**—The materials placed on the Vine border ought long ago to have been removed. They should now be cleared away carefully, as the roots will probably have run into them more or less. In that case the roots should be covered with a couple of inches depth of fresh loam, and be covered with a few inches thickness of leaves to keep the soil from freezing, and the lights may be replaced so as to throw off heavy rains and snow. The border ought to be exposed in summer,





NO time should now be lost in potting all shrubs intended for forcing, so that they may be in the right condition to respond to the demands made upon their energies while undergoing the operation. Any plants, or rather shrubs, intended for this purpose I always like to plunge over the rims of the pots in coal ashes in the open air for at least a month before taking them under glass, and if they remain in such a position for a still longer period they are all the better for it. In some cases the shrubs root surprisingly when so treated at this time of the year, in others they make no fresh roots before the influence of a warmer temperature is felt; but in all cases the roots have time to heal their wounds, and therefore be in a position to establish themselves more quickly when taken under glass than they would do if potted and at once given shelter. They also start more freely if subjected to a few sharp frosts before forcing begins, and in the case of that useful shrub for this purpose, *Deutzia gracilis*, a few plants should be kept in pots throughout the summer for the purpose of very early forcing, as if well cared for they may be depended upon to come into flower quickly when taken into a brisk heat as soon as the leaves have fallen. Taking them under glass before this stage has been reached is a mistake, as the points of the shoots start into growth, or rather continue the growth already nearly completed, and prevent many of the back buds from breaking, the natural consequence being that shoots which ought to be perfectly wreathed in flowers are only sparsely furnished with them.

In other cases it sometimes happens that cultivators are sorely puzzled to know why their plants lifted from the open air and placed under glass do not succeed as they expected. Judging from the appearance of the ripened wood all goes well for a time; each shoot in due course shows abundance of white buds, but just as these begin to unfold the greater portion of them turn yellow and fall, or at the best only open imperfectly. This undesirable state of affairs is caused by forcing too soon after potting, and by mutilating the roots too severely in order to place the plants in small pots. It is without doubt a great convenience to have plants, especially those required to be used for decorative purposes, in as small pots as is consistent with their well-being, but when this is carried too far great inconvenience often results.

I have treated this particular plant at some length, because when well done this *Deutzia* is one of the best of all shrubs for forcing. It is therefore all the more important that mistakes in its culture should be avoided. It should also be borne in mind that those plants intended for flowering early in the ensuing season should, after flowering, be placed in a medium temperature to complete their growth, otherwise they will not make such vigorous growth as they should do, but later plants will only require the protection of a cold frame till they are sufficiently hardened to place in the open air. The chief plants should be planted out and allowed to stand for two seasons before being forced again. Any plants that are weak or stunted may be invigorated by being cut down to the ground as soon as they have done flowering. Some cultivators make a practice of treating their whole stock in that way, but I have on many occasions found vigorous plants produce very strong shoots under this system which do not yield nearly so much flower per plant as the unpruned

ones, and I therefore advise pruning to be practised only in cases where additional vigour is required. *D. corymbosa* and *D. crenata flore-pleno* are also good varieties for forcing, but they are much stronger growers and produce larger flowers than the first-named.

Azaleas of the Ghent and mollis types are excellent for forcing; the varieties of the latter are perhaps the most showy on account of the larger flowers they produce, but I have a special liking for the Ghent type, because they possess so many lovely shades of colour, and have, moreover, in many instances a pleasing and uncommon scent. Both types should be largely grown where the cost of purchasing plants is practicable, and if only a few can be bought each year a stock is soon got together, as with proper attention they will serve for forcing purposes for an indefinite time by being planted out in the reserve garden in May or June and allowed to remain undisturbed for two seasons. Those who have a good yellow loam, fairly free from stones, will find these Azaleas may be grown successfully in it; but in the case of ordinary garden soils peat with a little burnt refuse added should be procured to plant them in. *Azalea amoena* is also a pretty kind, which thrives well under the same conditions as those already named. It is generally grown throughout the year in pots, but is quite hardy enough to be planted out in the south of England. Nurserymen grow large quantities of it in the open air, but gardeners are, as a rule, rather sceptical about its hardiness. It is a capital plant for forcing, and will succeed under precisely the same treatment as the Azaleas first named.

Rhododendrons are a useful and beautiful class of plants, alike for flowering in pots and in the open air, and fortunately they will endure fairly hard forcing. True, the trusses are not quite so fine as when the plants are allowed to come forward steadily, but the great aim with flowering shrubs for forcing is to get them in flower early in the spring, and for that purpose they are well adapted and will bear forcing better than many persons imagine. Any of the better varieties are good for pot work, but the early ones are of course preferable. The following varieties supply a good range of colour:—White Gem, very early; Baron Osy, creamy white, dark blotch; Caucasicum, yellowish; Illuminator, rose; Madame Wagner, bright pink; Mirabile, deep rose; Nobleum in various shades of colour; Prince Camille de Rohan, white shaded rose; Vesuvius, deep crimson scarlet.

*Choisya ternata* is especially good in pots when brought on in a greenhouse temperature. Its scented waxy white flowers are always prized; but, unlike the other plants named in this list, it should be grown in pots throughout the year, and taken under glass on the approach of sharp frosts. *Staphylea colchica* is another fine shrub, producing deliciously scented creamy white flowers, requiring the same treatment as *Deutzias*, and I am sometimes not a little curious to know why it is not more generally grown. I think it must be on account of a tendency with many gardeners not to grow anything till they have seen it for themselves. The consequence is many fine plants are only grown in certain localities where enterprising spirits have established them. I can confidently recommend this fine deciduous shrub for forcing. *Viburnum Opulus*, *Prunus sinensis flore-pleno*, and *Weigela rosea* and *alba* are well known to be valuable for the same purpose; and *Ribes sanguineum* and *album*, though not so much employed in that way, are quite as suitable. I have also a belief that the *Cydonias* will bear forcing well, and I intend to try some this season. Should they prove a success they will, on account of their colours, be acquisitions in a list of shrubs for forcing.

The value of plants which have been forced is often greatly lessened by cutting the flowers or using the plants for decorative purposes before they have been properly prepared, the result being that they do not last more than half the time they ought to. All cultivators should therefore have a regular system of placing forced plants and flowers into a comparatively cool structure for a few



days before using them, where they will be guarded from cold draughts, yet receive enough air to harden and render both leaves and flowers less fragile.—H. DUNKIN.

### SULPHATE OF COPPER MIXTURE AND THE POTATO DISEASE.

IN view of the discussion which has arisen regarding the application of the sulphate of copper mixture to prevent the spread of Potato disease, I take the liberty of mentioning that I applied the 3 per cent. solution of sulphate of copper mixed with an equal weight of lime, as per usual directions, to a field of Potatoes (Maincrop and Bruce) about the end of August. Soon after I observed the leaves becoming spotted. Fortunately, there is little disease here among late sorts, and my 1891 experience therefore hardly counts in showing how profitable the remedy may be in a more unfavourable season. A small plot of Early Puritans, badly affected in the tops, was dressed at the same time. These were afterwards lifted quite sound.

One portion of the Maincrops had been accidentally dressed with a large excess of lime, so much as to cause them to appear from a distance almost white; and I was surprised that, though the leaves over the rest of the ground died away during the early part of October, this part remained green until killed by frost on the night of the 29th October, and the crop on it is unusually heavy.

This curious result has led me to examine the history of the remedy, and I find that in the first instance some French experimenter discovered that sulphate of copper would cure an attack of fungus on Vine leaves. This fungus (*Peronospora viticola*) is quite similar in its habits of growth to that familiar to us as Potato disease (*Peronospora infestans*). It is now about seven years since sulphate of copper was first applied to the treatment of Vine mildew, and a great many experiments with regard to the best mode of application has been made. I venture to summarise some of the conclusions already arrived at from M. Vermorel's pamphlet, "Résumé Pratique des Traitements du Mildiou," as it is from the Vine-grower's experience that it was first successfully applied by Potato growers in France.

"Some varieties noticed in America as disease-resisting are attacked by it in France, and *vice versa*." "As a rule, people have been in too great a hurry to pronounce certain kinds safe, or certain remedies sure, because they were efficacious against mild attacks." "The Vines of a kind least susceptible of disease have sometimes been seen quite covered with mildew." "As atmospheric conditions vary greatly from one year to another, a variety attacked one year will not be, *ipso facto*, attacked the following year, whilst a Vine that has hitherto escaped may be so."

Sulphate of copper alone in solutions stronger than half per cent. was found to burn the leaves, and M. Millardet found that the injury was not always in proportion to the strength of the solution. This latter conclusion has led to experiment regarding some substance to mix with the sulphate of copper, and it was found that if an alkali were added the burning action would be prevented; ultimately lime has been generally adopted to mix with the sulphate of copper. It is cheap, easily procurable, and has a small value of its own as a disease preventive. The effect of adding the lime may be chemically stated as causing a double decomposition. The sulphate of copper is changed into hydrated oxide of copper (pale blue colour), and part of the lime is changed into sulphate of lime or gypsum. This hydrated oxide of copper is not very soluble, but as it adheres to the leaves is just sufficiently dissolved by the rain or dew to render them unfit for the germination of the mildew spores.

The formula for Potato disease recommended by the Royal Agricultural Society of England (20 lbs. sulphate of copper, 10 lbs. lime, and 100 gallons water) had been condemned by the French experiments, and M. Aimé Girard, in his work "Recherches sur la Culture de la Pomme de Terre" (Paris, 1891), mentions that in 1890 there were some failures in treating Potato disease with this formula owing to the influence of the rainy season, and he states that it is preferable to increase the amount of the sulphate of copper to 30 lbs., using an equal weight of lime.

In view of the chemical decomposition of the sulphate of copper it will be seen that it is essential that any labourer preparing the mixture for sprinkling should keep the lime well stirred, otherwise there will not be sufficient used to decompose the sulphate of copper, and leaves may be burned. It should also be borne in mind that unless the sulphate of copper and the limewash are each cold before being mixed some of the sulphate of copper will not be turned into the pale blue hydrated oxide of copper, but into the anhydrous oxide, which is of a dark brown colour and quite

insoluble, so that it is useless. The sulphate of copper solution requires frequent stirring to keep it of uniform strength.

It will now be apparent, if care be taken to add sufficient lime and the mixture properly made, the result when sprayed on the leaves covers them with the pale blue hydrated oxide of copper, with some free lime and gypsum, none of which substances are at all injurious to the leaves. Any cases of failure will perhaps now be further investigated, and those who have been affected will be able to secure success in future.

From the experience of French Vine growers it seems as if our best course with the Potato will be to set two or three Potatoes of a kind we know to be weak disease resisters in the ground with the others, then about the middle of July give a 1½ per cent. dressing as a precaution. These two or three sets should have been covered during the spraying, and if watched will afford a signal for a second or full dressing if disease should come.

It may occur to some that it would be almost as well to wait till disease actually shows itself before using the mixture, but my own experience this year was that when I first noticed spots on the leaves there was a violent storm blowing, which lasted over a week, before I could use my sprinkler, and M. Girard mentions that the long-continued rain of July-August, 1890, in the north-east of France made it impracticable to apply the Bouillie Bordelaise at all satisfactorily for a long period, so that the only failures he knew of in 1890 were in that district.—THOMAS HARLEY, *Bevdley*.

### CLIMBING PLANTS FOR NORTHERN DISTRICTS.

HARDY climbing plants are worthy of extended cultivation, as it is a phase of gardening that a great majority of people could if they like indulge in without any very great expense or trouble, except the initial expense of procuring and planting suitable kinds. There are thousands of plots of ground at the base of dwelling houses and other buildings, at the foot of boundary walls, palliades and palings, and various other positions which are admirably adapted and might be utilised, as in numerous instances they are, for the growing of hardy climbers. They would give, rightly managed, satisfaction, pleasure, and enjoyment to the planter or owner, and an equal amount of satisfaction, and even positive delight to those who might see them. There are many advantages accruing from the employment of decorative plants of this kind. When well grown, and not trained in too stiff and formal a manner, they are not only pleasing and ornamental, but obscure rough places and glaring bare frontages with either luxuriant foliage or bright flowers, sometimes both combined. There is something of effectiveness for every season of the year, and some—for instance, the Ivies—are effective throughout the year.

In these notes I hope to succeed in making some useful remarks on the hardiest of evergreen, deciduous, and flowering climbers which may without fear of failure be planted in unfavourable situations, or such as those in the immediate districts surrounding towns, and especially smoky and northern towns.

#### WISTARIA SINENSIS.

First of all I will consider the claims of the Chinese Wistaria as a climbing plant. It is not commonly to be met with in the immediate districts of Sheffield, and when it is, it is generally on the spacious walls of old established residences in the suburbs. On country mansions it is often seen to great advantage, its stout stems, strong shoots, and conspicuous foliage soon covering a large extent of space. It is one of the strongest growing climbers we possess, and will grow from 30 to 60 feet high in favourable positions in rich, light, warm soil of a fair depth. A Wistaria and a Scotch Laburnum planted together produce when in flower a good effect, as they bloom about the same time, and the latter, though a flowering tree independent of any support, is yet quite amenable to training against a wall, where if properly treated it will flower freely.

A position with a south aspect is best for the Wistaria, and for a very lofty position it may be ranked as the best flowering climber that could be mentioned. Its chief drawback is its deciduous character in winter, but planted so, if space permits, that it could be trained to overtop all others, the lower part of the position could be utilised for plants of less height, and of an evergreen character. When not required to cover an extensive space, the Wistaria may be planted, and will do well in ordinary fertile soil enriched with manure at or before, but preferably before the time of planting, which may be done in autumn or spring.

After planting, and just when the topmost buds are beginning to start in the spring, the plant should be pruned back in order to secure the requisite number of branches for furnishing the space



to be occupied. If several are required leave a sufficient number of buds to produce them. If only one branch be needed to run up to a considerable height before the work of furnishing the required space can be attempted, cut back to one or two buds, ultimately selecting the best of these for the leader or main stem, and permit no others to extend until this has reached the space intended to be furnished; then lateral branches should be encouraged in the necessary directions. These will finally constitute the framework of the tree, and from them will issue the flowering shoots yearly at every joint. To avoid overcrowding these shoots should be annually cut back to two or three buds during the winter. For growing over arbours, wire, or iron arches, the *Wistaria* is very suitable, and may be so employed with the certainty of producing a beautiful effect in the course of time.

#### CLEMATISES.

As a flowering climber of quite a different type the *Clematis* must next claim attention. If I can say anything that would induce the more extended culture of these beautiful plants in northern districts, particularly near towns, I should feel amply rewarded for penning these notes. They are easily cultivated, profuse bloomers, and wonderfully showy during their season of bloom, which upon the whole is a pretty extensive one. There are several sections of *Clematis*, the hardiest being the *Jackmanni*, the *montana*, and the *viticella* sections. The *Jackmanni* and the *viticella* sections flower on summer shoots from July to October, and *montana* blooms from May to July on the last year's ripened wood.

*Clematises* are slender in their habits of growth, but they are exceedingly vigorous, and therefore require rich soil to start with at planting time, and regular applications of rich material to the roots by means of mulching every year afterwards. This indicates that a light, poor soil will not grow the *Clematis* well, but a good holding soil that will not permit the manurial substances supplied to pass away too quickly is the material required. In addition to being naturally of a rich and strong nature, the soil should also be of a calcareous nature, or made so by the addition of lime, which is found to be of great advantage.

Young plants of any of the sections may be planted almost at any season of the year, but not if the roots have to be seriously disturbed, and with care in keeping the ball of roots moist, and fed if necessary, the beauty of a plant need not be diminished nor its vigour lessened even if planted from a pot when in full bloom. The best time, however, for planting is either in the autumn or spring. If not thoroughly hardened to exposure choose the latter period and plant as growth commences, but for a thoroughly hardened specimen with vigorous shoots and abundant roots autumn is perhaps the best period of any. Planting being completed, then comes the question, How should the *Clematis* be pruned? A reference to previous remarks on the manner of blooming would answer this; but it will be well, however, to make clear the correct methods of procedure, so that the *Clematis* may be grown and flowered on a few feet of trelliswork or wall, as well as be allowed to ramble over wider spaces, whether of walls, trees, shrubs, hedges, or screens.

All varieties belonging to the *Jackmanni* or *viticella* sections may be pruned in winter or early spring almost close to the ground or to a point near it where there are good bold buds, as it is upon the new wood of the current year that the flowers are produced. That is one method of pruning these varieties, and it is an excellent one for certain positions that require to be clothed with foliage and flowers as low as possible; but if required to clothe higher positions, the upper part only of a wall, the roof of a verandah or porch, or other lofty points, then low pruning is neither necessary nor desirable. But in these cases, however, the same fundamental principles must be kept in mind and adopted with this difference, that instead of pruning the plants to the ground they should be pruned to the main stem, cutting back the principal shoots which issue from it to their boldest basal buds for the purpose of covering the space at a certain point. *Clematis montana* of course does not need this annual shortening, thinning the old wood being the most that is necessary. The last, the easiest, and wildest way of cultivation is never to prune at all, but it is a method which produces a veritable thicket of naked and useless wood through which the rising sap in spring has to make its way, weakened and lowered in vitality by the process before it can produce young shoots, which may eventually flower. Those of the *montana* type will certainly do with less pruning than the others mentioned, but this section should never be allowed to retain crowded shoots or useless wood.

A few words as to the best varieties for hardy climbing purposes. *Clematis flammula*, with white sweet-scented flowers, blooming from July to October, is a good old kind belonging to the *Jackmanni* type. All the varieties of *Jackmanni*, of which there are many, are especially good. The best in the *viticella*

section is *Mrs. James Bateman* of a pale lavender colour. *Clematis montana*, with white vanilla-scented flowers, and *vitalba*, also with white flowers, are both rapid growers, and will soon cover plenty of space. The last named requires pruning on the shortening system. It is the only true species native to England, and is popularly known as the *Traveller's Joy*, because of the peculiar feathery construction of its seed vessels, which are very prominent in winter. It blooms in August.—E. D. S.

(To be continued.)

#### ARISÆMA WRAYI.

AT a recent meeting of the Royal Horticultural Society, from Messrs. B. S. Williams & Son, Upper Holloway, a plant was exhibited of this distinct and rather attractive Aroid, which is evidently well

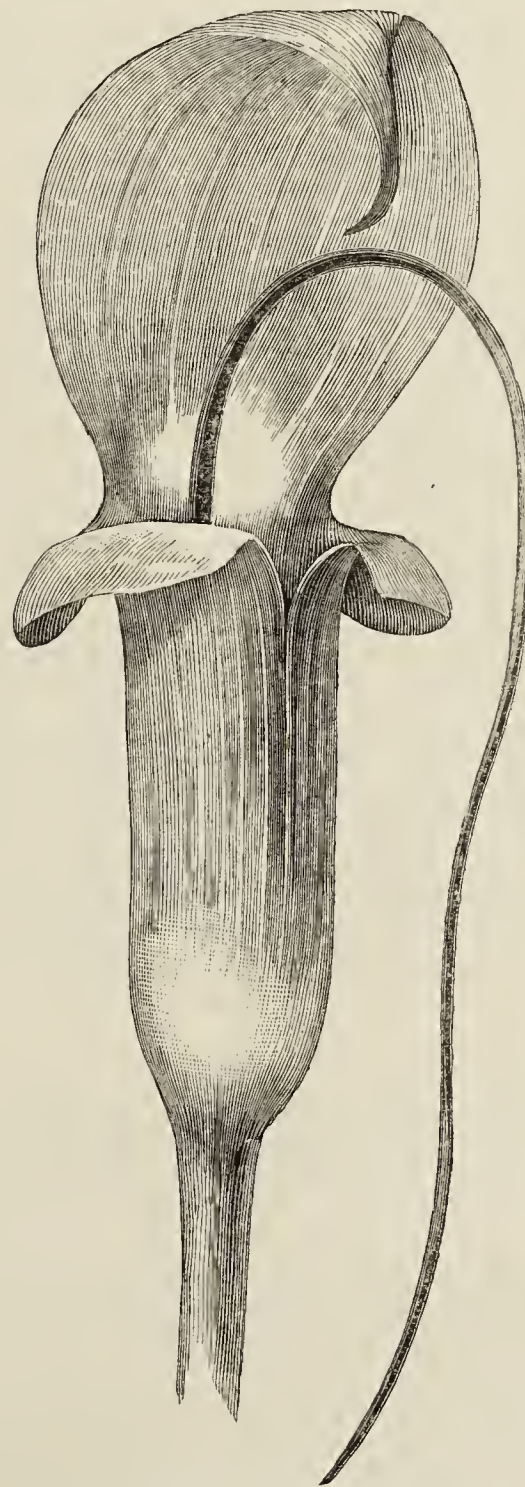


FIG. 82.—ARISÆMA WRAYI.

adapted for culture in pots. The spathes are neat in shape, and of moderate size; the soft shade of green, the white centre, and the long slender green spadix impart a very graceful appearance to the plant. Sir Joseph Hooker has given the appended remarks upon the genus and this particular species.

"The genus *Arisaema* is a remarkable one amongst Aroids for its wide range in latitude, from the tropics to far into the north temperate zone; and as might be expected from this, the elevation it attains is equally remarkable, from the low-lying equatorial regions of the Malayan Archipelago, to an elevation of 12,000 feet in the Himalaya. And what is very singular in a genus of so wide a distribution, there are no sectional groups of it more characteristic of the colder than of the hotter regions, or *vice versa*. The nearest ally of *A. Wrayi* is the Javanese and Sumatran *A. filiforme*, Blume. *A. Wrayi* itself is a native of Perak, where it was



discovered by Mr. L. Wray, who in 1884 sent herbarium specimens to Kew from Birch's Hill, with the note that the flowers are pale lilac and white, whereas in the cultivated plant they are pale green. In 1888 the same excellent correspondent sent living tubers to Kew, which flowered in January, 1889, and from one of these the accompanying figure was made."

The leaves are divided into five to nine narrow leaflets, about 8 inches long each, the leafstalks and scape being green and white dotted with red, giving a very peculiar effect. The plant, like most of its relatives, requires a warm house, a light open soil, abundance of water when in growth and flower, and a period of rest.

The form of the spathe and spadix is well shown in the woodcut (fig. 82).

### ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.—November 10th.—Present: Dr. W. T. T. Dyer, in the chair; Dr. Masters, Dr. Müller, Mr. McLachlan, Mr. Morris, Dr. Russell, Rev. W. Wilks, Mr. Lynch, Mr. Blandford, Prof. Church, Dr. Bonavia, Mr. Michael, Mr. Pascoe, and Rev. G. Henslow (Hon. Sec.).

*Pear Spot*.—The disease upon Pears brought to the last meeting proved to be due to *Fusicladium dendriticum*, Wallr., a common parasite.

*Hunting Spider*.—With reference to this insect, referred to at the last meeting, Mr. Morris observed that it proves to be very widely distributed. The male appears to be most commonly seen; he had observed it at the gardens of Sir J. Llewellyn at Penllergare.

*Wallflowers with Clubbed Roots*.—Mr. Lister, to whom the specimens were sent from the last meeting, reports as follows:—"I have not studied the life history of *Plasmodiophora Brassicæ* sufficiently to speak with entire confidence with regard to the disease which has attacked the roots of the Wallflowers; but I think there can be little doubt that they are affected by the same parasite as causes the clubbing of Cabbage roots. I enclose a drawing from a section of one of the roots, from which it will be seen that one half has not been attacked, while the other half is much swollen by abnormal growth of all the parts. The cells are larger and rounder than in the sound portion, and among them are vast numbers of larger chambers formed by the breaking down of cell walls, and these are filled with the spores of the *Plasmodiophora*. They are most abundant in the cortex, though both the phloem and the outer part of the xylem are largely affected. The organism would seem to be in the condition described by Zopf, where all the plasmodium (if that word can properly be used in this case) has changed to spores, which would escape when the diseased root rotted away. *Plasmodiophora* is not included by De Barry with the *eu-Mycetozoa*, and Zopf places it with the *Monadineæ*."

*Canonia capensis*.—Dr. Masters exhibited specimens showing interpetiolar stipules and glandular processes, apparently secreting a resinous matter. It was the only instance known in Saxifragaceæ, though similar facts were well known in Cinchonaceæ or Rubiaceæ.

*Pinus halepensis*.—A spray was received by Dr. Masters from Baron von Mueller, bearing both male and female inflorescences, they being usually separated.

*New Insect in St. Helena*.—Mr. Morris read a communication from Mr. W. Grey Wilson, Governor, referring to some insects forwarded (in two stages), which he feared might prove dangerous. They were taken from a Rose bush, the branches of which were densely covered with a large white insect and a small red one. It appeared to resemble some species of *Icridia*. It was sent to Mr. Douglas for examination and report.

*The Injury of London Fog to Plants*.—Dr. Dyer called attention to some discrepancies between the published analyses of the deposits collected at Chelsea and Kew—more particularly in the hydrocarbons—given in Dr. Russell's paper in *Nature*, November 7th, 1891. Thus, the hydrocarbons and organic bases are recorded as 12.3 and 2 per cent. respectively at Chelsea, whereas at Kew they were collectively only 4.8 per cent. Similarly the metallic and magnetic oxides of iron were together, 2.6 per cent., and mineral matter (chiefly silica and ferric oxide) was 31.2 per cent. at Chelsea. These taken collectively at Kew were 41.5 per cent. Dr. Müller did not attach very much importance to these differences; and Prof. Church thought it would be desirable to differentiate more accurately between the silicates. The general opinion was that it would be desirable to collect fresh deposits in the ensuing winter and re-examine them.

*Parana paniculata*.—Mr. Lynch exhibited a spray of this plant of the order Convolvulaceæ, received from India through Dr. Bonavia, who described it in 1885 (*Gardeners' Chronicle*, vol. xxiii, N.S. p. 47). It was the first occasion of its flowering in England. Dr. Dyer complimented Mr. Lynch on its successful cultivation.

*Ixodidae (Ticks) from Antigua*.—Mr. Michael exhibited specimens taken from ponies, and received from Mr. C. A. Barber. They were two females of a *Hyalomma*, probably *H. dissimile*, Koch; which Koch described some thirty years ago from specimens taken in Mexico. The creatures are bred on plants and trees, and attach themselves to passing animals, being then quite small; the male remains so, but the female sucks the blood of the animal and becomes enormously distended. They anchor themselves by their rostra, which are provided with recurved hooks; the *Ixodes* can then withdraw the rostrum and being full-fed,

drops off, matures and lays its eggs on the plants. The specimens sent had sucked and were much distended, but had evidently withdrawn their rostra, as these organs were perfect, whereas the claws with which they were holding on were all torn off.

*Specimen of Agaricus melleus Attached to its Mycelium (Rhizomorpha)*.—Mr. Plowright forwarded specimens with the following communications:—"It is not very long since our British mycologists ridiculed the idea that *Agaricus melleus* was a parasitic fungus, capable of destroying living trees. For many years the heterococious-like history of *Puccinia graminis* was similarly scouted as absurd. This, however, is now a thing of the past. In the specimen of *A. melleus* sent herewith, a group of young specimens are seen in situ attached to the well developed rhizomorphoid mycelium. The specimen was removed from an Ash tree in the park of Hammond Lodge, Terrington, St. Clements, in the month of October last. Such specimens are not easy to preserve; but in the present case this has been accomplished fairly well. The group of *Agarics*, which were quite young, had just emerged through the bark of the tree; by carefully cutting away the bark the mycelium was brought into view between the bark and the wood. A piece of the mycelium 3 or 4 inches square was removed with the *Agarics* in situ. Attached to the under side of the mycelium will be observed two fragments of the wood (Ash) already decayed by the agency of the mycelium."

*Agaricus squarrosus, a True Root Parasite*.—"The parasitic nature of *Agaricus squarrosus* is as well marked as that of *A. melleus*, although this feature in the life history of the fungus has not hitherto, to my knowledge, been pointed out. It attacks Beech, Apple, and Ash trees. The specimens sent herewith were obtained from an Ash tree near King's Lynn. The tree is a fine well-grown specimen growing on the roadside. Last October I observed clusters of *A. squarrosus* growing out of the ground a couple of feet from the stem. On carefully removing the turf I was able to trace the base of the stems of the *Agaric* attached to a compacted mass of white mycelium, earth, and small stones to one of the main roots of the tree. It will be observed that a portion of the woody tissues of the root permeated by white mycelial hyphæ is still attached to the basis of the stems of the cluster of the *Agarics*. Having watched trees attacked by this parasite for some years, it appears that its destructive influence upon the tree it attacks is not nearly so rapid as that of *Agaricus melleus*. This is accounted for by the fact that the mycelium of *A. squarrosus* is not nearly so well developed a structure as that of *A. melleus*. The hyphæ are not compacted into such thick cord-like structures. Still, however, a tree once attacked by *A. squarrosus* is practically doomed. This fungus is very destructive to the Apple trees in the orchards of Herefordshire, where it is a well known pest. It very probably attacks other deciduous trees, but the three above named are the only ones upon which I have observed it growing as a parasite."

Dr. Dyer observed that *A. melleus* is now well known as doing serious mischief through its parasitic habit, and mentioned that where roots are exposed and subject to abrasion by cartwheels, or otherwise, the *Agaric* is known to attack the decorticated place.

### STRAWBERRIES IN SCOTLAND.

THE following notes upon Strawberries, showing when we commenced and finished gathering fruits for the last ten years in midland Scotland may be of interest to some readers.

When commenced.	When finished.	Early variety.
1882 ... June 24th ...	August 12th ...	Black Prince.
1883 ... June 28th ...	September 5th ...	" "
1884 ... June 30th ...	September 3rd ...	" "
1885 ... July 3rd ...	September 1st ...	Garibaldi.
1886 ... July 7th ...	September 4th ...	" "
1887 ... June 15th ...	August 11th ...	Black Prince.
1888 ... July 2nd ...	September 20th ...	Garibaldi.
1889 ... June 25th ...	September 9th ...	King of the Earlies.
1890 ... June 27th ...	August 28th ...	" "
1891 ... July 2nd ...	August 22nd ...	Garibaldi.

Black Prince and King of the Earlies I have discarded, both are too small for table. Black Prince was a sparse cropper in our heavy soil, and King of the Earlies is rather white in flesh for preserving. Captain was tried and found wanting in shapely fruit, 90 per cent. were malformed. I planted 1000 of Noble last autumn, thinking to create a sensation with "noble" fruit before Garibaldi was ripe. In that I was disappointed, because Garibaldi was ripe four or five days before it, and President was ready to gather as soon as it was, all grown side by side. Noble is very deficient in flavour, rather soft in flesh for marketing, and far too dull in colour to be a taking fruit. I shall plant no more of it. I have grown about forty varieties, both late and early, but have found none to approach Garibaldi for an early (it is several days earlier than Marguerite), President for a midseason, and Frogmore Late Pine for a late. In other localities, and on different soils, the trio named may not be all what they have proved themselves to be here, but until a variety has proved itself to be *par excellence*, after a thorough test, there will be no more 1000 plants of it planted by—G. McDougall.





## ON JUDGING.

I THINK I made some remarks in the Journal last year upon the amount of work which the Judges at the Crystal Palace Rose Show had to get through within the hour, and suggested their being helped in the business of looking for duplicates, as they are hardly able to do this also when their task happens to be unusually difficult. My sentiments on this head are not altered, as this year my two colleagues and I had to judge Roses in two classes, which occupied, I estimate, more than 50 yards straight on end of tabling. I did not measure it, but I calculate the distance not only from the fact that a colleague standing at one end looked decidedly out of shot from the other if he had been a partridge, but also from the number of stands I knew were shown, and the usual length of boxes in such classes. It looked a large order, and when we found after preliminary investigation (and that must take some time) that no less than 288 blooms (to the best of my recollection, as fortified by my notes) had to be pointed in one class alone, it seems pretty evident that we could give no guarantee that duplicates had not been passed over, and that no time could have been spared for filling up those cards for judging, which were shown and suggested at the last general meeting. I do not wish at all to complain, and am very pleased and proud to do my best. It is plain that the work in one class cannot well be subdivided, but in order to get it done satisfactorily two things I believe are necessary.

First, is a suggestion I made last year—That when you have, in accordance with the rules, chosen your three-point standard Rose, this should be carried about by one of the Judges for immediate comparison directly there is any difference of opinion. I said, I think, that as one end of a large stand often becomes gradually weaker in setting up as the exhibitor gets short of first-class blooms, so in the time of judging as that end is approached, the ideal or standard of the judge involuntarily becomes lower. I thought, as a rule, in any large stand the tendency with judges would be, if anything, gradually to lower the standard; but the season of 1891 proved an exception. We had considerable trouble to start with in finding a three-point Rose at all, and were obliged at last to select one below our mental ideal; consequently, being naturally somewhat hurried, we were continually raising our standard unconsciously to that of ordinary seasons, and the frequent production of the standard Rose generally showed that we were estimating the disputed bloom too highly. A low standard throughout increases the trouble in judging, for a comparison of mediocrities is always tedious and uncertain. Secondly, though of course this is more important and should be first, it is essential that the judges should be absolutely agreed upon the first principles of judging, or, I need hardly say, it is difficult to get on at all. This is by no means meant as a reflection on my excellent coadjutors at the Crystal Palace, for as the work was done in the time, it is plain we got on very well. Still I would like to have my say. The N.R.S. definitions give the points of a good Rose as “form, size, brightness, substance, and good foliage;” and I have no fault whatever to find with this definition, especially if we may take it that the points are mentioned in order of merit, but I think this ought to have been stated.

Form first of all and above all. I had an idea that this was well understood as the prominent article in the florists’ creed, but from what I have heard I am not sure that it is so. “Size” is defined to “imply that the bloom is a full-sized representative specimen of the variety,” and “brightness” to “include freshness, brilliancy, and purity of colour.” Brightness therefore means what is generally spoken of as colour, since dullness would generally be looked upon as a deficiency in colour. I should put size and brightness as thus defined as of about equal value, but the difficulty with novices generally is that they do not realise the importance of form over colour. Yet I feel sure that the N.R.S. will uphold the value of the one above the other. I do not pretend to know much of art; but it is sufficiently plain, even to one who does not, that form must be above colour, for a drawing may be beautiful without colour, but a painting without shape or drawing cannot. I forbear classical allusions, such as that the Roman word for beauty was *forma*—“form”—and for beautiful, *formosus*—“shapely”—but I have sometimes when judging thought of the well known line—

“O formose puer, nimium ne crede colori”

as very appropriate. Let us rather think of the sneer in our own language, “Beauty is but skin-deep.” It is indeed, if it be dependent only on colour, but not if relying on form, for true beauty is in the shape, the outline, and even in the substance. And when I have seen a three-cornered thing of a Dr. Andry because of its bright flush placed upon an equality with a grand Horace Vernet that has somewhat lost its colour, it has seemed to me like estimating a newly painted gimcrack villa as of equal beauty with a noble old cathedral whose stones have become grimy and time-stained.

Now, though I should be disposed to put size and brightness (as defined) upon an equality, the N.R.S. puts size first of the two. And I am glad of this, because there seems to me to be now a considerable

and increasing tendency to take little heed of the authorised rule that size is a point—and the second point too—in the definition of a good Rose. A show bloom should be developed “in the most perfect phase of its possible beauty,” and I protest against Roses which are not developed and are under-sized, having a full amount of points allotted to them, and I believe my protest to be needed. I take the reason of the apparent preference sometimes shown for smaller blooms to lie in the ignorant statements made against exhibitors that they care only for size; and what I complain of is, I believe, the result of the little bit of mud which is proverbially said to stick out of a handful thrown. I remember seeing a short article in the gardening columns of a well-known paper, headed “Ugly Roses,” and it was all a tirade against size. There are two words, “coarse” and “rough,” which are very easily applied to any particularly fine blooms, and it might well be a temptation to a judge that his reputation for good taste might suffer if he awarded merit to blooms which others spoke of as “coarse.” Let the N.R.S. manfully maintain size (as defined) as one of the important points of a good Rose, for after all it is, and must be, the principal sign of good culture. To have good form without size it is only necessary to have the best varieties, and with many of them it is much easier to get good form (without substance or staying power) from plants that have not been very strongly grown or much thinned; but to have the best of colour you must have the vigour from which size is born. Our principal object in careful culture through many months is to get the health and strength which is legitimately shown in size, and for which we hope to be rewarded; but pretty well-formed buds may be got from an utterly neglected plant of a good sort. And let it be remembered that a show Rose is for show—for the exhibition tent, or for a vase by itself—and that it is not meant for wear or decorative purposes of an ordinary kind.

In nothing should the strict regulations and definitions of a perfect Rose be more sedulously observed than in choosing the medal H.P. or Tea. It should be the nearest approach to absolute perfection, as defined, to be found in the show. It is meant to be the best obtainable specimen of a standard or ideal Rose to serve as a pattern. Yet I remember some years ago a bloom of Général Jacqueminot was chosen at the Metropolitan Exhibition which was a mere spike, with only one or two petals open—of lovely colour certainly, for which alone it was, I believe, avowedly chosen; but it was quite undeveloped, and had no pretension to form. I have also seen elsewhere a Tea Rose chosen that was literally only a buttonhole. We must expect mistakes sometimes, but a medal bloom at a National or affiliated show should not be grievously lacking in any one of the three points required.

I am forgetting, however, that there are five points mentioned; but “substance” is actually included by definition 4 under “form,” though it is not necessarily coincident with “size.” And “good foliage,” I fear, we often do take little notice of. The rosarian’s eye wanders from bloom to bloom, and the foliage is scarcely noticed against the moss, though, of course, any serious defect would be detected. The foliage is pretty sure to be right if the Rose is, and under any circumstances it must, I think, be the last consideration.

In conclusion, I still think it would be fairer to exhibitors and judges, and more satisfactory in general uniformity, if in each class the same length of box or boxes was required from all exhibitors.—W. R. RAILLEM.

## FRUIT CULTURE AND EVAPORATING.

MR. J. G. WILSON, Ledbury, writes as follows in the *Worcestershire Echo* on the Gloucester Fruit Show:—

“I think one of the most interesting exhibits in connection with fruit culture was seen at the above Show, reflecting great credit upon the enterprise of Mr. F. Ricardo of Bromsberrow Place, Ledbury. The exhibit consisted of a variety of fruits—Plums, Pears, and Apples—grown and dried at Bromsberrow by the process known in America as fruit evaporating. The samples shown were in point of appearance quite on a par with any imported from foreign countries, and in flavour evidently superior.

“The subject of profitable fruit culture is at the present time a matter of great interest, and it has been proved conclusively that the best varieties of British grown Apples will fetch considerably more money than the best varieties of American Apples, one grower in Herefordshire this year having realised 30s. per cwt. for his Peasgood’s Nonesuch, when the best American Pippins were realising 19s. 3d. per cwt. But still, though the best varieties will command good prices, there remains the question, What is to be done with a quantity of inferior fruits? The mode practised by our cousins across the Atlantic has been to select the best grown fruits for the fresh fruit markets, and utilising the other by the evaporation process, and thus supplying us with the Apple ringlets and other fruits which we see exposed for sale in our grocers’ and fruiterers’ shops.

“Mr. F. Ricardo has been the first to illustrate to the landowners, farmers, and fruit growers of this neighbourhood the utility of this process in a practical manner; and the thanks, not only of the fruit growing community but of the general public, are certainly due to him for his enterprise, for he has proved that when a glut occurs in one kind of fruit, like there has been this year in Egg Plums, instead of the grower having to part with them at an unremunerative price, he can preserve them and get a good price for them in the winter, when fruit is fetching prices almost prohibitive, or at least quite so to the working classes. Not only will this process save the destruction of enormous quantities of health-giving fruit in times of superabundance



or when the markets are overcrowded; but should other landowners, farmers, and fruit growers adopt the method it must of necessity be the means of improving our rural districts, as it would add a new industry to our almost depopulated villages."



#### LIST OF SHOWS.

THE following are the dates of the remaining Chrysanthemum Exhibitions to be held during November of which we have received schedules and advertisements:—

Thursday, Nov. 19th.—Spalding, Hull and Rugby (second days), and Wantage.

Thursday and Friday, Nov. 19th and 20th.—York.

Thursday, Friday, and Saturday, Nov. 19th, 20th, and 21st.—The Scottish Horticultural Society, Edinburgh.

Friday and Saturday, Nov. 20th and 21st.—Stirling, Chorley, Bolton, and Stockport.

Saturday, Nov. 21st.—Batley.

Wednesday and Thursday, Nov. 25th and 26th.—South Shields.

#### BIRMINGHAM.—NOVEMBER 11TH AND 12TH.

THE thirty-first annual Exhibition was held in the City Hall on the 11th and 12th inst., and must be recorded as a very fine exhibition and a success. In one respect it probably differed from most if not all other exhibitions, for it was three storeys high. The exhibits were so numerous that many, including flowers, fruit, and vegetables, had to be arranged in the basement, while plants occupied the main floor of the handsome hall, the great display of cut blooms being arranged in the gallery above.

The cut blooms were an especial feature, and the liberal prizes of £20, £15, £10, and three following prizes brought sixteen exhibits; others had entered, but owing to so many other exhibitions being on at the time could not attend. Mr. R. Parker, gardener to J. Corbett, Esq., M.P., Impney, Droitwich, was first with a superb forty-eight blooms, twenty-four incurved, and twenty-four Japanese, the latter very fine indeed, the incurved not large but of refined quality. The varieties were:—*Japanese*: Vivian Morel (very fine), Boule d'Or, Etoile de Lyon, E. Molyneux, Sunflower, Avalanche, Baronne de Prailly, F. Davis, Meg Merrilies, J. H. Laing, Golden Dragon, Stanstead White, Gloire de Rocher, Madame C. Audiguier, Ralph Brocklebank, M. Bernard (very fine), Thunberg, Mdle. Lacroix, Madame Laing, and Triomphe de la rue des Châlets (both extra fine), and W. H. Lincoln, Mdle. A. Hoste, Mr. A. H. Neve, and Puritan (all very fine). His incurved varieties were Empress of India, Alfred Salter, Golden Empress, John Doughty, Lord Alcester, Queen of England, Lord Wolseley, Emily Dale, Prince Alfred, Mrs. Coleman, Violet Tomlin, Jeanne d'Arc, Prince of Wales, Miss Haggas, Alfred Lyne, Mrs. Heale, Lord Eversley, Lady Hardinge, Mrs. Shipman, Hero of Stoke Newington, Charles Gibson, Princess of Teck, Mrs. N. Davis, and Princess Beatrice. Second, Mr. Cox, gardener to W. H. Watts, Esq., Liverpool, with a fine forty-eight, consisting of incurved: Lord Alcester, Queen of England, Golden Queen, Mr. R. Bahuant, Golden Empress, A. Salter, Empress of India, Miss M. A. Haggas, Mrs. Coleman, Prince Alfred, Lord Wolseley, Mrs. Heale, Princess of Wales, Violet Tomlin, John Salter, Mrs. Clibran, Nil Desperandum, Princess of Teck, Lady Hardinge, Mrs. Shipman, Refulgens, Mr. Bunn, Jeanne d'Arc, Beauty of Hull. *Japanese*: E. Molyneux, Condor, Boule d'Or, Mdle. C. Audiguier, Etoile de Lyon, Sunflower, George Daniels, Avalanche, Stanstead White, Belle Paule, Jeanne Délaux, Bouquet de Dame, Stanstead Surprise, George Atkinson, W. H. Lincoln, Puritan, Martha Hardinge, Madame Baco, Criterion, Annie Clibran, A. H. Neve, Thomas Stephenson, Madame J. H. Laing, and Val d'Andorre. Third, Mr. Coombs, The Gardens, Himley, near Dudley. Fourth, Mr. J. Gould, gardener to G. R. Dale, Esq., Bromborough. Fifth, Mr. Peter Blair, Trentham Gardens. Sixth, Mr. Townsend, gardener to T. R. Greatorex, Esq., Shrewsbury.

For twenty-four blooms, twelve incurved and twelve Japanese, Mr. Parker was again first in a strong competition with incurved: John Doughty, Empress of India, Queen of England, Lord Alcester, Golden Empress, Violet Tomlin, Jeanne d'Arc, Lord Wolseley, Princess of Wales, Miss Haggas, Mrs. Coleman, and W. G. Heale. *Japanese*: Fanny Davis, very fine; Etoile de Lyon, W. H. Lincoln, very fine; a grand bloom of Vivian Morel, Thunberg, Avalanche, Gloire de Rocher, very fine; Sunflower, Louis Boehmer, very fine; Ralph Brocklebank, Meg Merrilies, and Madame C. Audiguier. Second, Mr. Cox, who had very fine blooms of Mons. R. Bahuant, and Mrs. Coleman (incurved), and fine Japanese also. Third, Mr. Austin, The Gardens, Witley Court. In the class for eighteen distinct, incurved, Mr. Parker was again first with similar varieties to those in his other winning stands. The name of the second winner was not on the card. Third, Mr. Austin, Witley Court Gardens. For twelve Japanese, distinct, first Mr. Austin with Sunflower, Alberic Lunden, very fine; Stanstead White, E. Molyneux, M. Bernard, Puritan, Etoile de Lyon, Japonicum, Avalanche, Crystal Queen, Gloriosum, and

Jules Toussaint. Second, Mr. D. Forbes, gardener to A. Holt, Esq., Liverpool. Third, Mr. Wm. Comfort, gardener to J. A. Everett, Esq., Knowle. In the class for twelve Anemone-flowered, not less than six varieties, Mr. Cox was first with Lady Margaret, Jeanne Marty, Gladys Spalding, Miss A. Lowe, Dame Blanche, and Mrs. Judge Benedict, very fine. Mr. W. Comfort was second with a fine stand of nine varieties, including Nelson and Mrs. Judge Benedict, two fine varieties.

The classes for local exhibitors residing close to or in Birmingham were well filled. In the class for twelve blooms, six incurved and six Japanese, Mr. Brasier, gardener to Sir Thomas Martineau, was first; Mr. Waldron, gardener to G. Cadbury, Esq., second; and Mr. W. H. Dyer, gardener to Mrs. Marigold, third. In the class for twenty-four blooms, twelve of each, Mr. Brasier was again first; Mr. W. Palmer, gardener to Wm. Bown, Esq., second; and Mr. C. Thomas, gardener to F. A. Walton, Esq., third.

Five groups were staged for the four prizes, and there was a very close competition for the first and second places especially. The first prize of £10 was awarded to Mr. W. H. Dyer for a fine display, in which the blooms of his incurved were especially fine; and the second prize fell to Mr. G. Fawdry, gardener to F. Breedon, Esq., for a very even in quality group of well grown plants. Third, Mr. C. Thomas, for an excellent arrangement; and fourth, Mr. A. Cryor, gardener to J. A. Kenrick, Esq.; and four finer groups were never seen at any Exhibition held in the Hall. For smaller groups of Chrysanthemums, with Ferns and Palms—and there were seven exhibits—Mr. Brasier was first, Mrs. Horton second, Mr. S. Gibbs, gardener to J. B. Manly, Esq., Harborne, third; and an extra to Mr. J. Farmer, gardener to W. H. Wynn, Esq.

Birmingham has always been noted for specimen Chrysanthemums, and on this occasion some excellent specimens were staged. In the class for nine plants of large flowering varieties Mr. Dyer was first with well-grown specimens, and well flowered; Mr. Brasier a good second; and Mr. Waldron a good third. For six specimens Mr. Dyer was again a good first, Mr. Waldron second, and Mr. Brasier third. For three specimen Japanese Mr. Dyer, first; Mr. Brasier, second; Mr. Waldron, third. For single specimen large flowering Mr. Dyer was first; and for three specimen Pompons Mr. Waldron was first with three grand specimens.

There was a wonderful display of Primulas, 340 plants being staged in competition in the various classes, and throughout they were superb specimens. In the classes for twelve and six single varieties Messrs. Thomson & Co., nurserymen, won first in each class for what the Judges unanimously pronounced to be the finest lot of Primulas ever seen anywhere. The sorts were Princess Louise, The Queen, whites; Emperor, salmon red; Marquis of Lorne, rosy purple; and Duchess of Fife, an exquisite pink, shaded white, and not yet sent out. Messrs. Thomson & Co. were also first respectively, six double Primulas, grand specimens; and for six Fern-leaved varieties, also very fine. Mr. F. Denning and Messrs. Pope & Sons took second and third positions alternating in the four open classes. In the gentlemen's gardeners' and amateurs' classes there was a strong competition, and for twelve, as well as six plants, an old exhibitor and grower, Mr. Caldecott, gardener to William Mathews, Esq., again maintained his position, Mr. Minard and Mr. Cryor being among other successful exhibitors.

Four very fine exhibits of six stove or greenhouse plants were set up, chiefly ornamental, many of the specimens, especially the Crotons, being grand examples of high-class culture. First, Mr. Waldron with a superb *Cycas revoluta* and Crotons *Andreanum*, *Queen Victoria*, and *majestica*, splendid well coloured specimens, and Palms, &c. Second, Mr. Brazier, with a strong lot. Third, Mr. Fewkes, gardener to T. Clayton, Esq., West Bromwich. Two collections of six Orchids were staged, both excellent exhibits. The first prize exhibit of made-up specimens, staged by Mr. Palmer, gardener to W. Bown, Esq., consisted of *Cattleya Warocqueana*, *Oncidium Forbesi*, *O. Alexandræ*, *O. crispum*, a fine pan of *Cypripedium Spicerianum*, and a large mass of *Odontoglossum grande*. Second, Mr. Burbury, gardener to the Right Hon. Joseph Chamberlain, M.P., with single specimens—viz., *Cattleya Bowringiana* and *Warocqueana* var. *regalis*, very fine; *Odontoglossum grande*, *Oncidium varicosum*, with three fine spikes; *O. Forbesi*, and *Dendrobium formosum giganteum*.

Grapes were fairly well represented. In the class for six bunches, not less than three varieties, Mr. C. Slade, gardener to the Duke of Newcastle, Clumber, was first with Alnwick Seedling, Gros Colman, Gros Maroc, Mrs. Pearson, Muscat of Alexandria, and Duke of Buccleuch. Second, Mr. Goodacre, Elvaston Gardens, with two bunches each of Gros Colman, White Tokay, and Alicante. Third, J. Wilkes, Esq., Stafford. In the class for black Grapes, three bunches, there were nine exhibitors. First, Mr. J. Baker, gardener to J. T. Harris, Esq., Stone, with three medium-sized, of very even, well coloured, and fair in berry of Gros Colman. Second, Mr. Slade, with fine Barbarossa. Third, Mr. W. Wilton, gardener to G. A. Carr, Esq., Grimsby. White Grapes, three bunches of Muscat.—First, Mr. W. Harman, gardener to the Earl of Denbigh, Warwick. Second, Mr. Slade. Third, Mr. Wilton. White Grapes, two bunches (Muscats excluded).—First, Mr. Slade. Second, Mr. J. Wallis, Keele Hall Gardens. Third, Mr. Brasier. For single bunches of black, Mr. Slade was first; and for whites, Mr. Harman, with superbly finished Muscats; and his first prize lot of three bunches of Muscats were also as highly coloured and finished.

There was a strong competition in the classes for Apples. For six dishes of culinary kinds Mr. Goodacre was first, Mr. Reed second, and Mr. Austin third, all very fine in quality. For six dishes of dessert



Apples Mr. Goodacre first, Mr. Austin second, and Mr. Reed third. For eight dishes of Pears, distinct, first Mr. Austin, second Mr. Bannister, Westbury-on-Trym; third, Mr. Goodacre. For four dishes, first Mr. Austin, second Mr. Bannister, third Mr. Parker. First prizes for Apples and Pears by Birmingham district amateurs were won by Mr. Zachary Walker, for two dishes of fine Apples, and by Mr. F. M. Mole, Edgbaston, for two fine dishes of Pears.

There was a strong competition in vegetables for prizes offered by Messrs. Sutton & Sons and Mr. R. Sydenham. From ten to twelve competed in each class, and most of the exhibits were of first-class quality. Of honorary exhibits there were several of a very meritorious character. Messrs. Thomson had a beautifully arranged large group, Messrs. Pope & Sons a group of various plants, and Messrs. Hewett and Sons a nice group, in which a beautiful new *Dracæna*, Prince of Monarch Bey (a very odd name), was conspicuous. Very fine memorial designs in flowers were also staged by Messrs. Pope & Sons, Messrs. Thomson, Mr. Denning, and a very handsome display of "shower bouquets" for brackets, &c., so named from the pendant arrangement of the flowers with coloured foliage. Messrs. Rd. Smith & Co., Worcester, and Messrs. Cutbush and Sons, London, contributed fine collections of Apples and Pears, and Mr. R. H. Vertegans plants in fruit of the Melon Pear. There was a large attendance of visitors on each day.

#### BOURNEMOUTH.—NOVEMBER 11TH AND 12TH.

VERY few societies are able to secure such a commodious building for holding an Exhibition as the Winter Gardens adjoining the Hotel "Mont Dore," Bournemouth, and bright, warm, and beautiful in all respects were the exhibits gathered therein.

Groups formed one of the principal features, and were of uniform good quality throughout. Whether in the open or within a radius of twelve miles from Bournemouth Pier, or whether exhibited by the single-handed gardener or amateur, all were alike praiseworthy, and seldom have we seen such numbers competing in the various sections. In the open class, for which the first prize was a silver cup or money, value £5, the premier prize was awarded to Messrs. Watts & Sons, Bournemouth, for fine blooms admirably displayed. The arrangement was a very handsome one, the plants healthy and fresh, and consisting of about equal parts of Japanese and incurved. Mr. T. H. Crasp, gardener to Lord Wimborne, Canford Manor, and Mr. T. R. Ingram, Parkstone, were awarded equal second prizes. Mr. Crasp's collection contained some of the finest incurved in the Show, but he had several old flowers in front. Mr. Ingram's was an effective arrangement of cut-back Japanese plants, carrying fresh blooms. The schedule stipulated "quality and effect," and, as usual, where such stipulations exist the Judges were placed in a dilemma when two groups are side by side bearing opposite characters.

For groups within a radius of twelve miles and of 50 square feet (first prize a silver challenge cup, valued £6 6s., offered by Messrs. Enoch White & Sons) Mr. G. Shave, gardener to W. W. Moore, Esq., Bournemouth, was a good first; Mr. T. H. Crasp took second honours, and Mr. F. J. Ellis, gardener to L. Forbes, Esq., third. There were seven competitors in this class, and the competition was very close.

For groups of Chrysanthemums 40 feet square, open to single-handed gardeners, Mr. Skeats, Mr. Terry, and Mr. Armfield were placed in the order of their names with fine collections. The amateurs staged seven groups, some of them highly creditable, especially those to which the awards were made. Mr. T. W. Tharle, Holdenhurst Road, Bournemouth, was deservedly placed first, and won the silver cup, value £8 8s., Mr. C. H. Mate and Mr. W. E. Macklin sharing the other awards for bright and attractive collections. Several classes were set apart for specimen plants, and brought some creditable examples.

The cut blooms throughout the Show were commendable for their massiveness, freshness, and bright or clear colours, the chief class being for thirty-six, eighteen Japanese and eighteen incurved, not more than two of a variety, first prize a silver challenge, value £8 8s., offered by Baring Young, Esq., M.P. Mr. G. Garner, gardener to Mrs. Braddyll, was well ahead, and secured the trophy with the following:—Japanese: Edwin Molyneux, Stanstead White, Mons. Bernard, Thunberg, Edwin Molyneux, Etoile de Lyon, Japonais, Puritan, Etoile de Lyon, Mons. Bernard, Mrs. C. Wheeler, two of the deepest and finest Mrs. Alpheus Hardy we have observed this year; Louis Boehmer (good), Boule d'Or, and Mons. Elliott. Incurved: Queen of England, Emily Dale, Lord Alcester, Emily Dale, Alfred Salter, Empress of India, Golden Empress, Alfred Salter, John Salter, Queen of England, John Salter, Miss Haggas, Princess of Wales, Mrs. Coleman, Prince of Wales, and Lord Wolseley. Messrs. Watts & Sons were placed second.

For twelve Japanese, distinct, Mr. G. W. Taylor exhibited a grand stand, with which he secured the first position, consisting of Etoile de Lyon, Ralph Brocklebank, Edwin Molyneux, M. J. Pigny, Japonais, Baronne de Prailly, Mons. Bernard, Stanstead White, Mr. H. Cannell, Meg Merrilies, Mons. Baco, and Triomphe de la rue des Châlets; Messrs. Garner and Watts & Sons sharing the other awards in the order of their names. For twelve incurved Mr. Garner was placed first with Emily Dale, Lord Alcester, Empress of India, Golden Empress, John Salter, Alfred Salter, Lord Wolseley, Queen of England, Princess of Wales, Miss M. A. Haggas, Cherub, and Mrs. Coleman.

The schedule consisted of upwards of eighty classes, nearly all of which were well filled. Fruit and vegetables were both good and very numerous exhibited. Bouquets, shoulder sprays, buttonholes, épergnes, Primulas, and table plants all added variety to the whole, and for which

success Mr. J. Spong, The Gardens, Lindisfarne, the Secretary, had worked very hard. He was ably seconded by Dr. Hitchcock and Mr. J. Swaffield, who are all well supported by a large contingent of workers, in the way of affording interest and subscriptions. The Mayor and the influential residents of the district attended the Show, which was opened by the Hon. Mrs. Dennison, and Mr. W. W. Moore also gave an interesting speech at the opening ceremony.

We are glad to learn that the total number of persons who visited the Show, in addition to those holding complimentary tickets, was about 4000. The sum taken at the doors on Wednesday was £42 10s., and on Thursday £75, making a total of £117 as compared with £105 last year. On Wednesday evening, nearly 1000 persons were admitted after six o'clock, and on Thursday evening after six the place was packed, upwards of 2000 paying the popular price of 3d. for admission.

#### BATH.—NOVEMBER 11TH AND 12TH.

As far as cut blooms are concerned Bath scarcely keeps pace with the times, and are not likely to do so unless they offer better prizes. In all other departments, however, they more than hold their own, plants of all kinds, fruit and vegetables being extensively and remarkably well shown. The Chrysanthemum Show, in common with the four other exhibitions annually held at Bath, is under the management of the Floral Fête Committee, the Secretaries of which are Messrs. B. R. F. Pearson and W. Jeffery.

Trained Chrysanthemum plants were shown very well in several classes, the principal prizewinners being the Rev. E. Handley, Mrs. Jolly, Mr. W. J. Brown, S. P. Budd, Esq., and James Williams, Esq. The silver medal of the National Chrysanthemum Society, offered for the best Chrysanthemum plant in the Show, was easily won by Mr. S. Kerslake, gardener to the Rev. E. Handley, who had a grand specimen of Mrs. G. Rundle fully 9 feet across, and carrying upwards of 300 good blooms. Groups of Chrysanthemums are always good at Bath, the competition being very close again this year. The Rev. E. Handley was first, Mr. W. J. Brown second, Dr. S. P. Budd third, and an extra prize was awarded to Mr. E. G. Peacock.

Collections of plants arranged for effect on a space 10 feet by 4 feet again are invariably good, and were particularly so on this occasion, there being three decidedly choice and very prettily arranged groups in competition. R. B. Cater, Esq., was first, C. W. Mackillop second, and J. T. Holmes, Esq., third. Orchids were well shown by Messrs. Cater and Holmes; fine-foliaged plants by Messrs. E. S. Cole and Son, J. F. Holmes, and C. W. Mackillop; table plants by T. W. Gibson, C. W. Mackillop, and A. R. Baily; Primulas by Messrs. Jerome Murch, C. Fisher, and P. C. Hardwick; and Bouvardias by Messrs. W. Pumphrey and E. Hall, who took the prizes in the order named in each instance.

The first prize for twenty-four blooms of incurved varieties, distinct, was won by Mr. W. Robinson, gardener to Lord Justice Lopes, with a generally good lot. In the back row were Golden Empress of India, Queen of England, Lord Alcester, Golden Queen of England, John Salter, Golden Empress of India, Robert Cannell, good; and Hero of Stoke Newington. Middle row: Violet Tomlin, Mrs. Coleman, Miss Haggas, Princess of Wales, Mrs. N. Davis, Mrs. Heale, Mr. Brunlees, and Jeanne d'Arc. Front row: Beauty, Baron Beust, Princess Teck, Jardin des Plantes, Venus, Cherub, Lord Eversley, and Barbara. Mr. J. Baylis was second, among his being good blooms of Mrs. Coleman, Golden Empress of India, John Doughty, Beauty, and Empress of India. Mr. Wilkinson, gardener to C. C. Tudway, Esq., was third, his best being John Lambert, Lord Alcester, Prince Alfred, and John Salter. For twelve incurved Mr. Baylis was first with a capital lot of blooms, to the best of which, Lord Alcester, was awarded a silver medal for the premier bloom in the Show. The rest were Empress of India, Queen of England, John Doughty, Violet Tomlin, Princess of Wales, Mrs. Coleman, Lord Wolseley, Mrs. Heale, Prince Alfred, Beauty, and Miss Haggas. Mr. Robinson was second, and Mr. J. Attwell, gardener to J. B. Brain, Esq., third. For six incurved Mr. W. Strugnell, gardener to A. R. Baily, Esq., Frome, was well first; Mr. G. Pyman, gardener to Mrs. Gouldsmith, being second; and Mr. J. Hinton third. A fine lot of Japanese blooms were shown. The premier prize for twenty-four varieties went to Mr. Wilkinson, who had in his back row Meg Merrilies, Mrs. C. W. Wheeler, Avalanche, Etoile de Lyon, Stanstead White, Gloire de Rocher, Mrs. F. Thompson, and Kioto. Middle row: Sunflower, Madame Baco, W. W. Coles, Boule d'Or, very fine; E. Molyneux, Puritan, Baronne de Prailly, and Val d'Andorre. Front row: Mons. Bernard, G. Daniels, Louis Boehmer, F. A. Davis, Lady Lawrence, Holborn Beauty, Margaret Marrouch, and Miss Amy Hartzhorn. Mr. Robinson was second, among his being extra good blooms of Fimbriatum, A. H. Neve, Puritan, M. E. Carrière, and Léon Fraiche. Mr. W. Strugnell was well first with twelve Japanese varieties, having fine fresh blooms of Volunteer, Sunflower, Etoile de Lyon, W. H. Lincoln, E. Molyneux, Mrs. F. Thompson, Mons. Bernard, Mr. G. Atkinson, Puritan, Mrs. F. Jameson, Avalanche, and Countess of Lytton. Mr. Robinson was a good second, the blooms of M. E. A. Carrière, Boule d'Or, W. W. Coles, A. H. Neave, and Marsa being most noteworthy; while Mr. Mann, gardener to W. H. Laverton, Esq., Westbury, was a creditable third. Mr. Pym was first for six Japanese; Mr. Tucker, gardener to Major Clarke, being second, and Mr. H. Pocock third. A very well-grown lot of blooms gained Mr. Robinson the first prize for Anemone-flowered varieties, these including Jeanne Marty, Madame R. Owen, Fabian de Mediana, Lady Margaret, Sabina, E. C. Jukes, Judge Benedict, Miss Annie Lowe, and Mr. Charles



Lebosque. Mr. Wilkinson was second, and Mr. Tucker third, a very fine bloom of Ratapoi being shown by the latter.

Fruit is always a great feature at this Show, one large room being wholly given up to it. Alderman Chaffin was first for four bunches of Grapes in two or more varieties, the second prize going to Mr. Nash, gardener to the Duke of Beaufort, and the third to Mr. Attwell. Mr. Nash had some grandly finished bunches of Gros Colman, and was first in that class, Mr. T. Jones being second, and Mr. Pymm third. With Alicante Mr. Jones was first, Alderman Chaffin second, and Miss E. Marriott third. In the class for any white variety Mr. Jones was first, Mr. Peacock second, and Mr. Attwell third. A very fine lot of Pears were shown, and with six varieties of these Mr. Nash was first; Mr. J. Gibson, gardener to Earl Cowley, second; and Mr. W. Bannister third. With four varieties Mr. Evry was first, Mr. Pymm second, and Mr. Milne, gardener to Miss Jarrett, third. Thirty-two competed with one dish of Pears, Mr. Gibson taking first with grand fruit of Pitmaston Duchess, the heaviest weighing 26 ozs. Mr. W. Marsh was second, and Mr. Milne third. The principal prizewinners with Apples were Messrs. Garraway, Stuckey, Pymm, Ricketts, E. Hall, S. King, T. W. Dunn, and J. Hibbard. With six dishes of fruit Mr. W. Nash was well first, Mr. E. Peacock being second, and Mr. E. Hall third.



EVENTS OF THE WEEK.—The Chrysanthemum Shows are nearly all over now, and next week will see the close of the season. To-day (Thursday) a Show will be opened at Wantage, and it is also the concluding day at Spalding, Hull, and Rugby. The York Show is continued to-day and to-morrow (Friday). The Edinburgh Exhibition of Chrysanthemums and Fruit will be opened to-day and continued until Saturday. Stirling, Chorley, Bolton, and Stockport announce Shows for November 20th and 21st. There is one at Batley on November 21st, and the latest fixture of which we have any information is at South Shields on November 25th and 26th. The National Chrysanthemum Society's Floral Committee will meet at the Royal Aquarium, Westminster at 2 P.M. on Tuesday, November 24th. Messrs. Protheroe & Morris advertise their usual sales of bulbs and plants for forcing this week and next; also there is to be a large sale of Orchids, including several novelties, in the Cheapside rooms on Friday, November 20th.

— THE INTERNATIONAL FRUIT SHOW IN LONDON, 1892.—We learn that the Queen has graciously consented to become patron of the International Fruit Show proposed to be held in London in 1892. Sir James Whitehead, Bart., is the Chairman, and it will be remembered that a provisional committee has been formed, partly representative of the principal societies and partly of horticulturists nominated at the preliminary meeting.

— CHRYSANTHEMUMS AND SAILORS' ORPHANS.—We are informed that Mr. Charles Colebrook, nurseryman and florist, Grimsby, who grows 5000 plants of Chrysanthemums, this year made a charge of 6d. to visitors for inspecting his display, and that a substantial sum was realised for the Sailors' Orphan House of the busy seaport. Mr. Colebrook grows all the leading varieties, and his show is stated to have been very fine indeed. The orphan boys' band was in attendance on the occasion.

— CHRYSANTHEMUM AND FRUIT EXHIBITION AT EDINBURGH.—The winter Exhibition of the Scottish Horticultural Association, which is now looked forward to as one of the most attractive events of the year in Edinburgh, will be held in the Waverley Market, from the 19th to the 21st inst., and promises to equal, if it does not surpass, all previous shows of Chrysanthemums held there. The fruit section will be a source of great interest and attraction when it is intended to exhibit a collection of the fruits of the United States. As this is believed to be the first occasion on which such an interesting exhibit has appeared at a horticultural exhibition in Britain, it will be examined and criticised by fruit growers with great care. Intimation has also been received from the Government of Nova Scotia through Dr. George Lawson, Secretary for Agriculture, of their intention to exhibit a display of the Apples for which that enterprising Colony is so famed. Fruit grown in the British Isles and in the Channel Islands is also to be present in considerable numbers.

— HARDY DAPHNES.—I must thank Mr. T. Smith for putting me right in the nomenclature of these fine shrubs. *D. Laureola* and *D. pontica* are both useful and desirable, but to the latter undoubtedly belongs the distinction of emitting the pleasing perfume which I attributed to the former variety.—H. D.

— CHRYSANTHEMUM SHOW AT THE GRANGE, CARSHALTON.—Mr. A. H. Smee during the past week opened his garden for the public to view the display of Chrysanthemums, and on Sunday afternoon nearly 2000 persons visited the establishment. The collecting boxes of the Gardeners' Orphan Fund were placed in prominent positions, and will no doubt result in a substantial contribution to that institution.

— GARDENING APPOINTMENTS.—Mr. James Gibson, for the last two years gardener to John McMaster, Esq., The Holt, Harbledown, near Canterbury, has been appointed head gardener to H. Berkeley James, Esq., at The Oaks, near Carshalton, Surrey. Mr. James Gregory, of the Rangemore Gardens, has been appointed head gardener to Sir Offley Wakeman, Bart., Pevery, near Shrewsbury. Mr. William Ranscm has been appointed head gardener to the [Rev. Douglas Barrey, Ightham Rectory, Sevenoaks, Kent.

— ALTERATION IN THE GARDENS, SANDRINGHAM.—In connection with the extensive alterations which has been carried on since Mr. McKellar took charge of these Gardens, there has just been completed a fine and commodious bothy for the young men, fitted up with all the latest improvements in heating and sanitation, hot and cold water lavatories and bath; and to commemorate the entrance into the new premises the gardener, on Thursday evening last, invited upwards of thirty couples to the dining hall, when a very enjoyable evening was spent.

— SUCCESSFUL PLUM CULTURE.—When upon an occasional visit to Mr. Bruce, gardener to R. Smith, Esq., Brentnham Park, Stirling, in the past summer, I admired nothing more than the appearance of two dozen Plum trees in 14-inch pots growing in a Peach house. Some of the trees matured as many as fourteen dozen fine fruits; they would, upon an average, mature ten dozen each. When seen last they were looking well for another season. When Mr. Bruce took charge of the gardens in the spring of 1890 he found the trees growing in 10-inch pots, and transferred them into those 14 inches in diameter. The staple soil used was good heavy loam and the after treatment has been generous.—G. MCD.

— AMATEURS AND SINGLE-HANDED GARDENERS.—Dr. Geo. Walker of Wimbledon sends a letter couched in pleasantly [satirical] language in reference to the comment on his exhibits contained in our report of the Wandsworth and Putney Chrysanthemum Show. It is not quite clear whether his shafts are directed at the Journal reporter or at the Committee of the Society which promoted the Exhibition, and room cannot be found for his communication owing to the present exceptional pressure on space. It was pointed out in the report that, although winning prizes in the single-handed gardeners' classes, the name of the doctor's gardener was not on his card. He now states that he has no gardener, doing all the work himself from first to last, but he omits to explain how it is that, this being the case, he was exhibiting and taking prizes in a section for gardeners as well as in that for amateurs; this, however, is the real point.

— WE learn that the HORTICULTURAL COLLEGE AT SWANLEY, which has already had a practical recognition by Government in the form of a small grant of money, has now received more substantial help from the Kent County Council. After close and careful inquiry it has been determined to devote annually a sum of £2400 of the money provided for technical education for the benefit of the college in the form of fifteen scholarships at £60, tenable for two years, and ten others at £30 per annum. These scholarships are to be open to pupils or past pupils in elementary schools, teachers, and youths whose parents are in receipt of an income not exceeding £400 a year. Of course this is not all gain to the College, since the holders of these scholarships have to be trained, boarded, and lodged. But it is hoped that it will give a sufficient lift to this Institution to start it on a course of prosperity and usefulness. It has hitherto been going on a joint-stock basis, but the help of the County Council will permit of the College being reconstituted, and the commercial element being eliminated. The Council, we understand, is to be represented on the Governing Body, so that the College is not only now receiving the recognition and pecuniary assistance of the public, but is to an important extent under public control.



— THE LACQUER TREE, RHUS VERNICIFERA.—It is stated that sixteen years ago, Professor Rein, the well-known authority on Japanese art and industry, planted in the Botanical Garden at Frankfort some specimens of the Lacquer Tree (*Rhus vernicifera*), from which the Japanese obtain the juice employed in the production of their famous lacquer-work. There are now at Frankfort thirty-four healthy specimens of the Lacquer Tree, 30 feet high and 2 feet in girth 1 yard from the ground; and the young trees, which have sprung from the original tree's seed, are in a flourishing condition. It seems to be proved, therefore, that the Lacquer Tree is capable of being cultivated in Europe, and it only remains to be seen whether the juice is affected by the changed conditions. To ascertain this, Professor Rein has tapped the Frankfort trees, and has sent some of the juice to Japan, where it will be used by Japanese artists in lacquer-work, who will report on its fitness for lacquering. In the meantime, some of the most eminent German chemists are analysing samples of the juice taken from the trees at Frankfort, and samples of the juice sent from Japan; and should their reports and the reports from Japan be favourable, it is probable that the tree will be largely planted in public parks and other places in Germany. In course of time a skilled worker in lacquer would be brought over from Japan to teach a selected number of workmen the art of lacquering wood, and in this way it is hoped that a new art and craft may be introduced into Europe. Professor Rein has been conferring with the authorities at Kew as to the results of his experiment.—B.

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, 56 feet above mean sea level, October.—Mean temperature of month, 48.5°. Maximum on the 4th, 61.4°; minimum on the 31st, 27°. Maximum in the sun on the 4th, 107.4°; minimum on the grass on the 31st, 21.2°. Mean temperature of the air at 9 A.M., 48.8°. Mean temperature of the soil 1 foot deep, 50.5°. Nights below 32°, in shade four, on grass fifteen. Total sunshine, eight-three hours, or 26 per cent. of possible duration. We had five sunless days. Total rainfall, 3.70 inches. Maximum fall in twenty-four hours on the 6th, 0.98 inch. Rain fell on nineteen days. Average velocity of wind, 10.2 miles per hour. Velocity exceeded 400 miles on six days, and fell short of 100 miles on six days. Approximate averages for October:—Mean temperature, 48.2°. Sunshine, eighty-three hours. Rainfall, 2.84 inches. The first three weeks were wet and stormy, the last week fine and dry. Temperature and sunshine about the average.—JOSEPH MALLENDER.

— THE CROFT ANGRY APPLE.—Mr. G. W. Cummins, The Grange Gardens, Carshalton, writes: "I think if you could publish the enclosed it would bring out some interesting discussion from your Scotch readers. Miss MacKnight sent Apples of the variety to our Conference last week, and Mr. Barron remarked that at the Apple Congress in 1883 fruit under the name of 'Croft Angry' was exhibited by Mr. Fairgrieve of Dunkeld, and was considered by the Committee to be the same as Dutch Mignonne, but the one sent to us was quite distinct, being small and flat with a large open eye."

The communication referred to is as follows:—"Its Scotch name—Croft Angry—is a corruption of 'Croft-an-Righ' (the King's Meadow) in old Gaelic or Norse (which was spoken in Galloway up to 'the Union,' 1707). The Croft-an-Righ was meadow lands given 1160 by order of David I. (of Scots) to the Church; whereon Fergus, his Governor of Galloway, built at Wigtown a Priory of White Friars. (Monks of the Primontrentian Order followed agriculture and gardening as a part of their religious life.) The wig (or bay) on Sulbach's Sea—now the Solway—was mild and fertile, and within a short distance of Whithorn—the Candida Casa of the Romans, where St. Ninian of Galloway built the first stone building for Christian worship in Britain. 1267 Devorna Gilla, descended from Fergus, and daughter of Alan of Galloway and also the mother of John Baliol, King of Scots, built Sweet Heart Abbey. Both there and at Dundreman Abbey (benefited by Alan) this Apple was grown and called by this name. These two Apples are from a tree, 40 to 50 feet high, in the garden at Beechwood, Wigtown, N.B. The tree was planted by John Simson, Esq., a great gardener, at least sixty years ago, and was known to be a true graft of an old tree believed to be grafts of the original stock. By Galloway tradition this Croft Angry is called the first Apple known in Scotland. Owing to the storm on October 13th the fruit is pulled too early, and is bruised. The tree was well laden with such Apples as these, none larger nor many less. It ought to hang to November, be golden in hue when ripe, and keep till after Candlemas."

— "ALL the world has agreed," said Downing in his *Horticulturist* some forty-five years ago, "that there is nothing more perfect of its kind than the RURAL ARCHITECTURE OF ENGLAND. The cottages of that country are as widely different in effect from those of any other as the Anglo-Saxon race differs from all else, civilised or barbarous. What this difference consists in there are, perhaps, few who take the trouble to analyse. Many persons suppose it to lie in pointed gables and high roofs. Still, these were not originally English, but were borrowed from Flanders, yet the Flemish cottages have little or none of the peculiar beauty which charms us in those of England. Others have imagined that it is something especially becoming in the features of the English landscape itself. Yet this can hardly be true, since we have seen faithful copies of the English cottage built in this country in equally picturesque scenery without producing upon the mind the same impressions as the original edifice. The secret charm of the English cottage lies, we imagine, in its home-expression and its rurality. . . . The English cottage, even of the humblest class, is surrounded by trees, embowered in vines and creepers, and hedged about with shrubs to a degree quite unknown in any other country. The love of trees and flowers is a universal passion in that country, and man, woman, and child, among the cottagers, take an especial pride in the green adornments of their home. Sips and roots find their way from the pleasure grounds of the nobleman's mansion to the humble garden of the cottage; and there is a personal and individual care bestowed upon them, even by those who have scarcely any other of the refinements of life, that neither the people of the Continent nor of this country have as yet any positive share of. The effect of all this taste is to spread a beautiful drapery about the rural cottages of England that renders what would otherwise be scarcely more than rude cabins little gems of rural and picturesque beauty. Indeed, strip most of the loveliest cottages of England of their sylvan and floral enrichment and they would absolutely lose their whole power of charming."

— FRUIT CULTURE IN TRINIDAD.—From an advance copy of Sir William Robinson's Report to the Colonial Office on the colony of Trinidad, we are able to give some details of fruit growing in that island. The Governor is able to report that this industry, which he foresees will be of incalculable benefit to the colony, and which he has spared no endeavour to promote, has at length commenced to show some encouraging results. The Central Agricultural Board, a most useful and influential Association, has energetically worked with His Excellency in this object, and has been the means of stimulating enterprise and spreading valuable information throughout the length and breadth of the island by its discussions and publications. It was in the spring of 1889 that small shipments of fruit, chiefly Oranges and Bananas, were first made to the American markets by the newly subsidised line of steamers. These shipments were necessarily of an experimental character, and produced very varying results, some fruit fetching fair prices, and others being sold at a loss. This, however, is not difficult to account for. The shipments were of a spasmodic character, and the processes of packing and picking, which demand the greatest care, were but little understood. The first operations, too, were commenced at a rather unfavourable period of the year, in which Trinidad fruit had to compete with that from other well-known fruit growing countries where the requirements of the market were thoroughly understood, and it is not surprising, therefore, that the pioneers of the new industry were somewhat disheartened at the results obtained. The Central Agricultural Board and its agents, however, urged the people to persevere, and in the opinion of Sir William Robinson the industry may now be considered to be firmly established. The principal exports have consisted of Oranges, Limes, and Bananas. Experiments have been made with other products, but not with satisfactory results. Five thousand two hundred crates of Oranges were shipped in the four months ended December 31st, 1890, which constituted the season for that year. Two larger plantations were started during the year, and numerous smaller ones. A notice written by the Governor calling attention to the advantages of this industry was extensively circulated throughout the colony in English, Spanish, French, and Hindustani. Trinidad Limes were first placed on the New York market in 1889. These did fairly well, and in 1890 there was a considerable increase in the shipments. Several abandoned Lime plantations have been reclaimed, and the exports of this product will, no doubt, increase rapidly, as it has been discovered that they can compete favourably with Sicilian Lemons. The shipments of Bananas have considerably fallen off in 1890 as compared with 1889. The fruit spoils very quickly, and it has been found that small quantities cannot receive the special



care and attention which they require. Large areas are, however, being planted up with Bananas, but the excessive rainfall of 1890 has somewhat retarded operations. Dried Bananas have been placed on the Canadian and American markets with the most encouraging results.—(*The Times*).

## GLOUCESTER ROOT, FRUIT, AND CHRYSANTHEMUM SHOW.

NOVEMBER 9TH AND 10TH.

THIS Society held their annual Exhibition in the Corn Exchange, Gloucester, on the above dates, and was a thorough success in every way. The prize list for fruit is an extensive one, and the large quantity of excellent fruit staged on long tables reaching the whole length of the large hall made a very imposing display. Potatoes, also, were of extraordinary merit; in fact, roots and tubers of all descriptions were good. Groups of Chrysanthemums made an attractive change from the other portions of the Show.

Grapes were in fine form, C. Lee Campbell, Esq. (Mr. S. T. Wright, gardener), Glewston Court, Ross, being first with perfect Alieante extra good in size of bunch, berry, and colour, Mrs. Gambier Parry (Mr. Sowray, gardener) being a good second with the same variety. The latter exhibitor was first in the white class with fine Muscat of Alexandria, Mr. J. H. Jones, Churchdown, second with the same kind not up in colour. For twenty-four dishes of Apples (prize given by Mr. J. Watkins), Mr. C. Lee Campbell was a good first, Mrs. Gambier Parry, Highnam Court, Gloucester, second. For collection of dessert, The English Fruit and Rose Co. (Cranston's) were first with an extensive display of fine fruit, the most notable being Winter Peach, Worcester Pearmain, Duchess of Gloucester, Yellow Ingestrie, Gascoigne's Seedling, Cheshunt Pippin, Crimson Queen, Col. Vaughan, and many others. Mr. C. Lee Campbell came second with fine fruits, but less in number than the first. In the single dish classes Mr. C. Lee Campbell was first with Ashmead's Kernel, Ribston Pippin, and King of the Pippins. For a collection of culinary Apples The English Fruit and Rose Co. was first, the following being fine, Peasgood Nonesuch, Tom Putt, Lady Henniker, Mère de Ménage, Striped Beefing, Herefordshire Beefing, Bismarck, The Queen, Loddington, &c., Mr. C. Lee Campbell being a very close second, having large well coloured fruit. For a collection of Pears, Mr. J. Watkins, Withington, Hereford, had one of the finest lots staged this year, the fruit being very large and finely coloured. Amongst many others the following were conspicuous—Chaumontel, Maréchal de Cour, Marie Louise, Forelle, Napoléon, Van Mons, Léon Leclerc, Doyenné du Comice, Bergamotte Dussart, Glou Morceau, Easter Beurré, &c., Mr. C. Lee Campbell being second with a smaller lot. For a collection of cider Apples, Mr. J. Watkins was first with exceedingly highly coloured fruits. This exhibitor brought a large collection of Apples not for competition, but the space available would not allow of its being staged.

Groups of Chrysanthemums covering 50 square feet were very good, Mrs. Gambier Parry being first with a remarkably fine well-arranged group; Dr. Needham, Barnwood House, Gloucester, coming second, and Messrs. Roberts & Starr third. For twenty-four blooms, Japanese and incurved, the most successful exhibitors were Mr. W. Gammidge, Greville House, Gloucester, and Messrs. Roberts & Starr. For twelve blooms Mrs. Gambier Parry and Mr. W. Martin, Norton Court, Gloucester, were the chief prizewinners. For Anemones, Mr. C. Lee Campbell was accorded first honours, the blooms in each class being of fair size and fresh.

A good deal of attention was directed to a large case of dried fruits by the process of evaporation. The fruit was arranged tastefully in divisions, and consisted of Prune Damsons, whole Apples, conserved Apples, Apple rings, Pears, Plums, &c., also samples cooked; in either state they were good. The whole were done by Mr. W. A. Trotter, gardener to F. Ricardo, Esq., Bromsberrow Place, Ledbury, and open a new field for preserving fruit, as Apples may be done at a cost of 5d. per bushel; Plums also at a similar rate, and they would compare very favourably with any of the dried fruits we get from abroad.

## THE KENT COUNTY SHOW OF FARM FRUIT, MAIDSTONE.—NOVEMBER 10TH AND 11TH.

THIS comparatively young Society held its third annual Exhibition of hardy fruit in the Corn Exchange on the above date, and is, it is gratifying to note, giving substantial proof of its usefulness in the development of the love of fruit culture amongst farmers, &c., from the fact that the entries of the present year increased something like 560 per cent.; and that of the high-class exhibits, which were truly remarkable for uniformity, size, and colour, Apples especially in every class being excellent, and Pears not one whit behind. The Committee and Hon. Secretaries, Mr. Seymour and Mr. T. Frost, who are most painstaking and courteous to all, may be highly congratulated on their success, and the Society is certainly deserving of the strongest support.

The only class open to landowners, their gardeners, and nurserymen was for the best twenty-four dishes, open-air grown, and here several of the Palace prizewinners again tested their strength; but the superb examples exhibited by Roger Leigh, Esq., Barham Court (gardener,

Mr. Woodward), easily secured the premier position, every fruit being without spot or blemish, and of immense size. The Apples were Peasgood's Nonesuch, Bismarck, Alexander, Mère de Ménage (finely coloured), Reinette de Canada, Warner's King, Stone's Washington, Brabant Bellefleur, The Queen, Lord Derby, and Belle Dubois. Pears—Pitmaston Duchess, Doyenné du Comice, Durondeau, General Todleben, Easter Beurré, Beurré Diel, Beurré Superfin, and Nouveau Poiteau (fine in the extreme). Mr. Thomas, Sittingbourne, was placed second, and exhibited in his usual good style. The third prize fell to Lady Fletcher, The Kenwards (gardener, Mr. Smith), whose best dishes were those of Pears, Pitmaston Duchess (large), Catillac, &c.

In the class for twelve dishes of farm-grown Apples and Pears, each dish to consist of twelve dishes, distinct, brought out a fine display. The first prize went to Mrs. Fremein, Teston, with a faultless collection of the following Apples:—Stone's, Peasgood's Nonesuch, Melon (very good), Glory of England, Cox's Pomona, Mère de Ménage, Lord Derby, Warner's King, and Stirling Castle. Of Pears—Catillac, Pitmaston Duchess, and Marie Louise; Mr. S. Goodwin, Mereworth, securing the second position with fruit finely coloured but smaller than those of the first; and Mr. Thomas third with very fine Cox's Orange, The Queen, &c. For one sieve of dessert Apples Mr. Thomas took the lead in a spirited competition, his Cox's Orange being very fine; followed by Mr. Mainwaring, Brenchley; Mrs. Fremein, and Mr. Fearon, Mereworth, respectively, with the same kind. Mr. Chambers was first for cooking ditto, his Warner's King being large, clean, and fresh. Mr. Goodwin was second with highly coloured Cox's Pomona, the third and fourth going to Mr. Warde, West Farleigh, and Mr. Fearon. In class for four quarter-sieves dessert ditto Mr. Goodwin took the lead, showing capital Ribston Pippin, Cox's Pomona, Cox's Orange, and Worcester Pearmain. Mr. Thomas was second, his Sam Young and Barchard's Seedling being very good; Mrs. Farmer, Battle Hall, Leeds, being placed third. For two quarter sieves Mr. Fearon took the lead; Mr. Blest, Watlingtonbury, was second; and Mr. Bryan, Mereworth, third. For the best four quarter-sieves kitchen Apples Mr. H. Leney, West Farleigh, took the lead, closely followed by Messrs. Framlin and Farmer. In the two ditto Mr. A. Ward was first with Stone's and Warner's, Mr. Fearon second, and Mr. Bryan third. In the class for Pears, two quarter-sieves, Mr. Blest secured the highest honours with large Pitmastons and Marie Louise. Second, Mr. Goodwin, with clean Hacon's Incomparable and Maréchal de Cour. A collection of any other sort not named in schedule was poorly represented, as was dried fruits. These two classes, it is to be hoped, will bring out more competitors another year.

## GRIFFINIA HYACINTHINA.

AMONGST the numerous floral attractions in Messrs. B. S. Williams and Son's Victoria and Paradise Nurseries, Upper Holloway, a group of Griffiniias was a short time ago a special feature, and no doubt many visitors have been induced to commence the culture of these plants by a sight of these in the nursery mentioned. The stout scape of flowers so beautifully tipped and edged with blue and white, and the bold handsome foliage, render the plants most charming for winter flowering, and it is remarkable they are so seldom seen in gardens where the floral display for the winter months is a source of constant anxiety.

Mr. Baines recommends the following treatment:—

"An intermediate heat, such as that of a vinery where a little fire is used, will answer for them quite as well as a warmer situation, but they should never, except in warm weather, be subjected for a long time to a greenhouse temperature, even when they have completed their growth and are at rest, or they are liable to suffer. The only drawback to their more general cultivation is their scarcity consequent upon their slow habit of growth, a circumstance still further aggravated by keeping them quite dry when at rest. Nothing can be more injurious to any evergreen bulb than this kind of treatment when carried too far, and especially in the case of Griffiniias. Unlike *Eucharis amazonica*, Griffiniias cannot be grown and periodically rested so as to induce them to flower several times in the year; on the contrary, they need a long season to become fully developed, and want a long rest afterwards before flowering, during which the soil should be kept much drier than when they are in active growth, but should never be so dry as to cause the leaves to flag. Another reason why these plants are scarce is that so few succeed in raising them from seeds, the failure being often attributable to the seeds being covered with soil, whereas they should be allowed to remain on the surface of the soil in the pots, otherwise they will decay.

"Griffiniias can also be increased by separation of those bulbs that are produced as offsets in the same manner as with *Amaryllis*, but their progress is very slow, and the roots are so closely interwoven as to render their separation almost impossible without considerable mutilation. When they are to be divided, the ball should be turned out of the pot and the whole of the soil washed very carefully from amongst the roots,



by which means they may be more readily disentangled without so much breakage. They should then be placed singly in from 4 to 6-inch pots, according to the size of the bulbs, and treated as hereafter described for

and irregular in shape. They must be allowed to remain on the plants until they either fall off of their own accord or can be removed by very slight pressure, and should then be sown immediately. For this purpose



FIG. 83.—GRIFFINIA HYACINTHINA.

plants raised from seed. After blooming in summer or autumn the seeds make their appearance, growing to the size of Potato Apples, but in appearance more like small green unripe Tomatoes, being corrugated

use an ordinary seed-pan proportionate in size to the number of seeds, put an inch of drainage in the bottom, and on this a little sphagnum or turfy material."



## CHRYSANTHEMUM SHOWS.

DEVIZES.—NOVEMBER 10TH.

THE Chrysanthemum Shows at Devizes are connected with a bazaar held for benevolent purposes, and the prize schedule is limited somewhat in extent accordingly; but if quantity is wanting, there is no lack of quality, valuable prizes always being offered, and these invariably attract some of the best growers of the day. Mr. T. King, the well-known gardener at Devizes Castle, has sole charge of the horticultural part of the display, and, it is almost needless to add, arranges everything in a very satisfactory manner.

Four good prizes, the first being £6, are offered for groups of Chrysanthemums on a space not more than 12 feet by 6 feet, and these brought together four grand groups, all of which would have been thought quite good enough to win a first prize anywhere else. After a very close scrutiny by the Judges the first prize was eventually awarded to Mr. W. Hale, gardener to C. N. May, Esq., Elm Lodge, Devizes, who had a grand bank of plants, the individual blooms generally being large, fresh, and brightly coloured, such Japanese varieties as Carew Underwood, Sarah Owen, Mons. Bernard, Etoile de Lyon, and Avalanche being particularly good. Mr. H. Clack, gardener to Major Colston, Roundway Park, was a very good second. Mr. F. Perry, gardener to Captain Spicer, Spye Park, third; and Mr. W. Mansell, gardener to W. Brown, Esq., Browfort, fourth. Mr. Perry's group comprised several extra finely flowered plants, Stanstead White being particularly good, a bloom of this being singled out for the award of a certificate for the premier Japanese in the Show. For twenty-four blooms of incurved Chrysanthemums, not less than eighteen varieties, the first prize was of the value of £10 10s., and this was well won by Messrs. W. & G. Drover, Fareham, Hants, who had, perhaps, the grandest lot of blooms ever seen in the south-western counties. These consisted of Emily Dale (3), all wonderfully fine, one of the blooms being selected as being the best incurved bloom in the Show; Alfred Salter (2), Lord Alcester (2), Empress of India (2), Lord Wolseley, Mrs. S. Coleman, Violet Tomlin, Prince Alfred, Princess of Wales, John Doughty, Queen of England, Charles Gibson, Lady Carey, Miss Haggas (2), Lady Dorothy, Empress Eugénie, Jeanne d'Arc, and Nil Desperandum. Mr. W. Neville, gardener to F. W. Flight, Esq., Twyford, was a very creditable second, the prize being a silver cup value £5 5s., his blooms being smaller than Messrs. Drovers', but otherwise perfect. The third prize was awarded to Mr. W. Robinson, gardener to Lord Justice Lopes, Heywood House, who also had a very good lot of blooms.

A silver cup value £5 5s. was offered for twelve Japanese blooms, distinct, and here again Messrs. Drover were first, having large though not very richly coloured blooms of E. Molyneux, Sunflower, Stanstead White, Etoile de Lyon, Sarah Owen, M. E. A. Carrière, Boule d'Or, Mr. C. W. Wheeler, Mons. Bernard, W. H. Lincoln, Condor, and Mrs. F. Jameson. Mr. Neville took the second prize for five better coloured blooms, and which were improved by additional space being given them, Etoile de Lyon, Mrs. Wheeler, and Mrs. F. Jameson being among the best. Mr. W. Robinson was third, and Mr. G. Pymm, gardener to Mrs. Gouldsmith, Trowbridge, highly commended. The best twelve reflexed, in not less than six varieties, were shown by Mr. W. Robinson, who had solid bright coloured blooms of Cullingfordi, Bronze Christine, Peach Christine, Mrs. Forsyth, Pink Christine, Cloth of Gold, and King of Crimson. Mr. W. Hale was a good second. For twelve incurved varieties, distinct, Mr. Neville took the lead with a good lot, his best being Mrs. Coleman, Miss Haggas, Princess of Wales, and Violet Tomlin. Mr. Robinson was second, and Mr. H. C. Baylis highly commended. A class was also provided for twelve incurved, with 4 inches of stem and their own foliage, and with these Mr. W. Hale was first, having a very good lot of blooms, consisting of Empress of India, Princess of Wales, Mrs. Heale, Lord Wolseley, Lord Alcester, Miss Haggas, Jeanne d'Arc, John Salter, Violet Tomlin, Cherub, Lady Hardinge, and Princess Beatrice. Mr. W. Robinson was second. The last-named was easily first in a well-filled class for twelve Anemone-flowered, in not less than four distinct varieties, showing capital blooms of Jean Marty, Fabian de Mediana, Madame R. Owen, Miss Annie Low, Lady Margaret, Sabine, E. C. Jukes, Mr. Judge Benedict, W. & G. Drover, and M. Charles Lebocq. Mr. H. Clack was second, and Mr. Pymm highly commended. Baskets of autumn foliage and berries were numerous and well shown by Mr. Den, the Misses Cunningham, and others, and it must not be omitted that the valuable challenge cup offered for the winner of the greatest number of points gained at each show was finally won by Mr. W. Hale, gardener to C. N. May, Esq.

YEOVIL.—NOVEMBER 10TH.

THE Yeovil Chrysanthemum Society held its annual Exhibition of plants, cut blooms, fruits and vegetables in the Town Hall on the above date, and was the best hitherto held by the Society, of which the Mayor (Dr. Colmer) is the President, W. Cox, Esq., J.P., being the excellent Chairman of the Committee and a staunch supporter of horticulture in the Yeovil district, and Mr. Oakley the Honorary Secretary.

*Groups and Plants.*—These were arranged, as is usual, in the Corn Exchange, and produced a fine effect as viewed from the top of the stairs leading to the Justices' rooms, in which the cut blooms, fruits, and vegetables were effectively staged. In the class for a group of Chrysanthemums covering a space 10 feet by 6 feet, Mr. Crossman, gardener to J. Brutton, Esq., Yeovil, was an easy first out of three good groups, staging capital grown and efficiently arranged plants in pots ranging from 9 inches to 3 inches in diameter, clothed with

luxuriant foliage, the blooms being very fresh; those on the outside row of plants in the 3-inch pots and about 9 inches high, were nearly, if not quite, 3 inches in diameter. Mr. G. Gear, gardener to Benjamin Penny, Esq., Yeovil, was second; and Mr. C. Anthony, gardener to Thomas Moore, Esq., also of Yeovil, was an exceedingly close third, both arrangements being very meritorious, as also were the plants.

Mr. F. Biss, gardener to J. Bradford, Esq., Yeovil, had the best group of miscellaneous plants; Mr. W. Appleby, gardener to T. W. Dampier-Bide, Esq., Yeovil, the second; and Mr. J. Allen, gardener to Rev. W. L. Cotter, West Coker, Yeovil, was third best, all staging suitable and tastefully arranged plants, the first-prize group winning more on account of the plants having been less formally arranged than of their quality, which, however, was good.

*Plants.*—Mr. Crossman was first for three incurved varieties with nicely trained and well flowered plants of Mrs. Dixon, Prince of Wales, and Mrs. George Rundle; Messrs. C. Anthony and G. Gear being second and third respectively. Mr. Crossman was again to the front for a number of Japanese varieties, Mr. Gillingham, gardener to Miss Phelps, Yeovil, being second, and Mr. J. Barrett, gardener to Dr. Daunt, Ilchester, third. Mr. C. Anthony was first for three Pompons, Mr. Crossman being a close second. Mr. Crossman had the best specimen plant of incurved, showing Mrs. Dixon in good form, Mr. Barrett being second. Mr. Crossman was again well to the front with a specimen reflexed in fine condition, Mr. Sampson, Bridport, being second, and Mr. C. Anthony was third. Mr. Crossman was also first for specimens of Japanese and Pompon varieties.

In other classes for table and miscellaneous plants the competition was keen; all the principal prizes were secured by Messrs. Gallop, Anthony, Gillingham, Copp, Drake, and Shire.

*Cut Flowers.*—These were shown in quantity and quality better than at any previous Show of the Society, the principal class being for twenty-four blooms—twelve incurved and twelve Japanese, distinct varieties, the first prize being a cup or £3. Out of seven good stands put up Mr. Copp was first with a good all-round lot, the blooms being large, solid, even, and fresh. They were—Japanese: Criterion, Edwin Molyneux, Sunflower, Condor, Ralph Brocklebank, Madame J. Laing, Stanstead White, Carew Underwood, Sarah Owen, Baronne de Prailly, Comte de Germiny, and Avalanche. Incurved: Miss Haggas, Queen of England, Empress of India, Novelty, Golden Empress, Lady Hardinge, Mrs. Shipman, Mrs. Heale, Baron Beust, and Barbara. Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Langport, was a good second, and Mr. T. Wilkins, gardener to Lady T. Guest, Inwood House, Henstridge, was a close third. Mr. Gallop showed capital blooms in this and the next class, but was disqualified in both for staging two blooms of Empress of India under its right name, and that of Duchess of Manchester. With twelve incurved, distinct, Mr. Lloyd was well first, staging capital blooms of Golden Empress, Empress of India, Queen of England, Alfred Salter, Miss Haggas, Violet Tomlin, Nil Desperandum, Alfred Lyne, Cherub, Jeanne d'Arc, and Lord Alcester. Mr. J. Barrett was second, and Mr. Crossman third, both showing creditable blooms. Mr. Wilkins had the best stand of six incurved, and Mr. Copp the second best. Mr. Lloyd secured first place for twelve Japanese, distinct, out of eight good stands put up, staging Triomphe de la rue des Châlets, W. H. Lincoln, Stanstead White, Sunflower, Edwin Molyneux, Louis Boehmer, Ralph Brocklebank, Avalanche, and Etoile de Lyon; Mr. Copp being second, and Mr. Sampson third. Mr. Wilkins had the best stand of six Japanese, showing good blooms of Maiden's Blush, Gloriosum, Edwin Molyneux, Etoile de Lyon, Stanstead White, and Mons. H. Elliott; Mr. Sampson was second. Six lots were staged. Mr. Copp had the best stand of reflexed, Mr. Sampson the second, and Mr. Crossman the third best, all showing well. Mr. Crossman was the only exhibitor of twelve bunches of Pompons staged with foliage, and he was accorded first honours. Floral arrangements were well represented by Miss Tucker and Miss Harris, both of Yeovil, their arrangements being light and tastefully set up.

Fruit was well shown. Three collections, consisting of six kinds, were staged by Mr. Lloyd, Mr. Crossman, and Mr. Daley, gardener to Col. McGregor, Maperton, who took the prizes in that order. The first prize collection consisted of good Black Alicante and Trebbiano Grapes, Hero of Lockinge Melon, Marie Louise Pears, Ferris Apples, and Nottingham Medlars, a good all-round lot for the time of year. Mr. Crossman's collection contained good Alicante Grapes, Coe's Golden Drop Plum, and Marie Louise Pear. Mr. Lloyd was well to the front with two bunches of Alicante Grapes in good condition as regards size, shape, freshness, and colour; Mr. Wilkins being second, and Mr. Daley third. In the any other black Grape class Mr. Lloyd was again placed first for good well-coloured examples of Gros Colman, being followed by Mr. G. Gillingham and Mr. Wilkins in that order. The prizes for two bunches of Muscat of Alexandria went to Messrs. Gallop, Daley, and Crossman. In other classes the prizes went to Messrs. Wilkins, Lloyd, Daley, Gallop, Gillingham, Copp, and E. Hall.

Collections of vegetables and salading ingredients were capitally shown in amateur, cottager, and open classes. The most successful exhibitors in the latter were Mr. W. E. Hall, Mr. Crossman, and Mr. Allen; Mr. Copp securing first honour in Messrs. Jarman's special prize class for six kinds of vegetables with extra fine produce. The two admirable and most tastefully arranged collections of salading set up by Messrs. Allen and Crossman attracted a good deal of well merited attention.

Non-competitive exhibits came from Messrs. Veitch & Son, Exeter, who staged sixty dishes of Apples of fine quality, among which may be



mentioned The Queen, Cox's Pomona, Sandringham, Hollandbury, Herefordshire Beefing, Cellini, large, clean, and well-coloured fruits. Messrs. Jarman & Son, Chard, staged fifty dishes of excellent Apples; and Mr. B. R. Davis, Yeovil, seventy-two dishes of Pears and Apples.

#### LEEDS PAXTON SOCIETY.—NOVEMBER 10TH AND 11TH.

THE third annual Chrysanthemum Show of the above-named Society was held in the Leeds Town Hall on the above dates. Prior to this Society taking up the work of conducting it, the Leeds Chrysanthemum Show was in a languishing state, being very indifferently supported by either the resident gentry as subscribers, or by the public as visitors to the Show, but owing to the untiring work of an energetic committee and executive, such state of things has been entirely altered since the Paxton Society took it in hand, and the finances of the Show are now in a very satisfactory condition. A reference to the balance-sheet for 1890 shows that the subscription list amounted £150; gate-money, tickets sold, and from other smaller sources of income, £126, which enabled them, after paying a prize list of £138 10s., and all other expenses of working, to show a balance to their credit of £68.

The present year promises to be equally successful in finances as it undoubtedly was as a Show. The first class in the schedule was for a group of miscellaneous plants arranged for effect on a space of 120 feet, circular, and this brought four competitors all with meritorious exhibits, which added immensely to the beauty of the Show. They were very close in points of merit, and some difficulty was found in rightly apportioning the prizes. They were ultimately awarded as follows:—First, Mr. J. Frankland, gardener to W. Barron, Esq., M.P.; second, Mr. W. Townsend, gardener to E. B. Faber, Esq.; third, Mr. G. Cooper, gardener to E. W. Beckett, Esq., M.P.; fourth, Mr. P. Massey, gardener to J. Wilson, Esq.

The class for a group of Chrysanthemums arranged for effect in a space not exceeding 80 square feet (semicircular), brought only two competitors, the one obtaining the first prize from W. Boston, Manor Farm Nurseries, Carthorpe, Bedale, being especially meritorious. The second prize was taken by Mr. J. Eastwood, gardener to Mrs. Tetley.

The several classes for trained specimen plants of Chrysanthemums were all very well competed in, but the plants shown were of a different character to those of previous years, which have usually been large, rather tall specimens, with a flat or slightly convex head 4 to 5 feet across. This time they were, as a rule, only about half that size, neat, well grown, and well flowered bushes about 2 feet over, just the best kind of plants for conservatory decoration, and deserve to be encouraged. The principal prizetakers for these were Mr. J. Eastwood, and Mr. R. Harburn, gardener to A. Kitson, Esq.

Ornamental, stove or greenhouse, and table plants were well shown. The principal exhibitors and prizewinners were W. Grix, gardener to Sir James Kitson, Bart., G. Cooper, J. Wilson, and P. Massey.

The greatest interest in the Show was probably centred in the open class for thirty-six blooms of Chrysanthemums, eighteen incurved and eighteen Japanese, for which a challenge cup, value 15 guineas, and £9 in cash, was offered as first prize; second prize £6, third £3, fourth 30s. For these prizes five competed, the first prize and cup going to Mr. W. H. Hotham, gardener to W. Robinson King, Esq., North Ferriby, Brough; second, Mr. J. P. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hull; third, Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, Liverpool (winner of the cup last year); fourth, Mr. J. Bell, gardener to Mrs. Roundell. The varieties contained in the first prize stand were—Incurved: Queen of England, (2), Lord Wolsley, (2), Empress of India, Mrs. Robinson King (?), Prince Alfred, Alfred Salter, Mr. Bunn, Formosum Album, Novelty, Refulgens, Nil Desperandum, Jeanne d'Arc, Jardin des Plantes, Mrs. Shipman, Lady Hardinge, Beauty of Hull. Japanese: Stanstead White, Fimbriatum, Edwin Molyneux, Sunflower, Avalanche (2), Puritan, George Daniels, Coronet, Madame J. Laing, Val d'Andorre, Boule d'Or, Mrs. J. Wright, M. Freeman, Madame Louise Leroy, Ralph Brocklebank, Madame Baco, M. J. M. Piguy. The finest incurved flower in this stand or in the Show was a grand flower of Mrs. Robinson King, a new golden yellow sport from Golden Empress, as deep in colour as is Jardin des Plantes, and with the fine build and shape of Lord Alcester, a splendid acquisition. It was unanimously awarded a certificate by the Judges.

The same exhibitor was first for twelve blooms, incurved, open, with Queen of England, Lord Wolsley, Lord Alcester (2), Nil Desperandum (2), Prince of Wales, Mr. Bunn, Mrs. G. Rundle, Beauty of Hull, Mrs. Dixon, Lady Hardinge. For twelve blooms, Japanese, open, Mr. J. P. Leadbetter was first with Condor, Madame C. Audiguier, W. H. Lincoln, Belle Paule, Bouquet de Dame, Val d'Andorre, Puritan, Stanstead White, Madame J. Laing, Fair Maid of Guernsey, Cesare Costa, and Madame Baco. The other prizes in the open classes were all well competed for, the principal prizewinners being those above named, with Mr. C. H. Simpson, Messrs. H. Clark & Sons, Mr. Moore, and Mr. Jno. Gould.

In the gentlemen's gardeners' class and amateurs a silver challenge cup, value ten guineas, and £5 cash, was offered as a first prize for twenty-four blooms, twelve incurved and twelve Japanese, distinct, which was well won by the energetic Chairman of the Committee, Mr. W. Grix. Second, Mr. J. Gordon, gardener to M. Bottomley, Esq. Third, Mr. J. Eastwood. The smaller classes for gentlemen's gardeners and amateurs were well competed for, the principal exhibitors being Messrs. Grix, Walton, R. Cross, W. Appleby, P. Massey, and J. W. Frankland. There was a fine display of made-up flowers in the form of bouquets, Chrysanthemums, and Ferns, bridal and ballroom, ladies'

sprays, and gentlemen's coat bouquets, the principal prizewinners for these being Messrs. W. Frankland, Halley and Bullock, W. Grix, T. Newbould, T. Massey, and W. Moore.

Fruit was well shown, especially Grapes, the stands of which were both numerous and good, Messrs. J. Johnson, P. Massey, C. H. Simpson, and W. Hotham being the principal prizewinners for these; whilst the same with Messrs. Grix and Moore were successful in the various classes for Apples and Pears.

A large ante-room was also well filled with a very fine display of vegetables, exhibited principally by the gardeners of the district, whose names appear above. A class was also provided for a dessert table, 8 feet by 4, completely laid for six persons, decorated with flowers and Fern. Two competed, and their work proved very attractive to the ladies, and an excellent relief and addition to the Show. Mr. G. Cooper, gardener to E. Beckett, Esq., M.P., was first, his decorations being especially bright and attractive, but rather too crowded; Mr. Wm. Brown, the Green Dragon Hotel, being placed second with a light arrangement, somewhat lacking in floral embellishments.

#### CIRENCESTER.—NOVEMBER 11TH.

FOR a first attempt this was a remarkable success. The Corn Hall is admirably adapted for a Chrysanthemum show, and with plenty of good material to work with, Mr. Frank Sare, the energetic Honorary Secretary, and an efficient Committee, contrived to arrange a very effective Exhibition to the best advantage. Nearly everything in season was well represented, the quality in many instances comparing very favourably with what has been seen at other south-western shows this season. There should be a good future for this Society.

There were two classes for groups of Chrysanthemums, and both were well filled, two sides of the hall being given up to these. The first prize for a large group was well won by Mr. T. Arnold, gardener to the Earl of Bathurst, who had a capital lot of dwarf disbudded plants, being very neatly and effectively grouped. Mr. D. Elkins, gardener to A. Cator, Esq., was a close second, having fewer blooms, but they were of good quality; while the third prize went to Mr. W. Taylor, gardener to T. W. C. Masters, Esq., who also arranged a very creditable group. With a smaller group Mr. C. Orpet, gardener to Miss Brown, was well first; Mr. J. Painter, gardener to C. Green, Esq., second; and Mr. C. Chapple, gardener to R. Anderson, jun., Esq., third; an extra fourth being awarded to W. Geater, gardener to J. Hyde, Esq. The classes for trained plants were not so well filled, but these could very well have been dispensed with. Mr. G. Bastin, gardener to G. Holloway, Esq., Stroud, took first for six trained plants of incurved varieties and a like number of Japanese varieties, having very creditably grown specimens in each instance, and a few other fairly good plants were shown. Miscellaneous groups were arranged by three exhibitors, but Mr. Arnold was easily first, having several Lælias, Dendrobium Dearei, Dendrobium Ainsworthi, Cypripediums, Oncidium Rogersi, Calanthes, Palms, Aralia, Ferns, and such like very prettily grouped. Mr. O. Orpet was a creditably second, and Mr. D. Elkins third. Mr. O. Orpet had the best Bouvardias; Mr. G. Rice, gardener to Mrs. Bulley, the best Zonal Pelargoniums; and Mr. T. Arnold the best Primulas; competition being fairly keen in each instance.

In the open class for thirty-six cut blooms in equal numbers of incurved and Japanese varieties Mr. C. Mayo, gardener to A. Apperley, Esq., was a good first, having fresh good blooms of incurved, Golden Empress of India, Empress of India, Violet Tomlin, Miss Haggas, A. Salter, Lord Alcester, Mrs. Coleman, J. Doughty, Jardin des Plantes, Princess of Wales, Guernsey Nugget, Lord Wolsley, Isabella Bott, Barbara, Mrs. Heale, Bendigo, Jeanne d'Arc, and Princess of Teck. The Japanese were Etoile de Lyon, Fair Maid of Guernsey, E. Molyneux, Sunflower, Val d'Andorre, Maiden's Blush, Mr. H. Cannell, J. A. Laing, Bertha Flight, Puritan, Pelican, Mr. J. Laing, Baronne de Prailly, Mrs. J. Wright, Jeanne Délaux, Gloriosum, Louis Boehmer, and R. Brocklebank. Mr. G. Price was second, his best being Violet Tomlin, Jeanne d'Arc, Queen of England, and Refulgens. Mr. Bastin was third. In the local classes for thirty-six blooms a second prize was awarded to Mr. G. Price. The same exhibitor was also first for twelve Japanese varieties, having among others very good blooms of W. W. Coles, Etoile de Lyon, Sunflower, and Mons. Bernard. Mr. G. Bignell, gardener to Mrs. Brewin, was second, and Mr. D. Elkins third. Mr. G. Price was first for twelve incurved, Mr. D. Elkins second, and Mr. G. Hansford third; and with six of one variety Mr. Elkins was first for good Princess of Wales, Mr. G. Price being second. The best twelve reflexed blooms were shown by Mr. G. Price, a first prize also going to Mr. D. Elkins for Anemone-flowered varieties. The vases of Chrysanthemums and any kind of greenery, especially those shown by Mrs. Sare and Mrs. Fowler, were very tastefully arranged, as also were the baskets of autumn foliage and berries shown by Mrs. Rawlins, Mrs. Sare, and others.

Fruit was very well shown. Mr. G. Hansford was first for three bunches of Muscat of Alexandria Grapes. Mr. W. H. Saunders, gardener to J. Taylor, Esq., second; and Mr. Arnold third. In the class for black Grapes Mr. G. Price was well first with Alicante in good condition, Mr. Arnold being second, other exhibitors having fairly good Mrs. Pince and Black Hamburg. The best six varieties of dessert Apples were staged by Mr. J. Baker, gardener to Colonel Porter, Mr. W. Taylor being a close second. The last-named took the lead with six varieties of culinary Apples, and Mr. J. Arnold second. Pears were also well shown. Mr. W. Taylor was first for six varieties; and Mr. G. Gegg, gardener to Mrs. Haines, second.



The greater portion of one end of the hall was taken up by two grand banks of plants, arranged, not for competition, by Messrs. J. Jeffries & Son, Cirencester. One was composed principally of very well grown Chrysanthemums, all the best varieties being represented, and the other of choice flowering and fine-foliaged plants in excellent condition.

#### LOUGHBOROUGH.

THE seventeenth annual Show of Chrysanthemums was held in the Town Hall on the 11th of November, and was one of the best shows they have had. There were two groups of Chrysanthemums, Messrs. Biddles and Co. being only just first, Mr. Hickling being second. There were two groups of foliage and flowering plants, Mr. Hickling winning easily, Messrs. Biddles second. The Rev. J. Bird of Walton Rectory won all the first prizes both in incurved and Japanese, cut blooms, his incurved blooms of the following being nearly equal to those shown at Liverpool last year:—Alfred Salter (very fine), Queen of England, Golden Emperor, John Lambert, Empress of India, and Lord Alcester. He also had very fine blooms of Etoile de Lyon and Condor in the Japanese. About 120 dishes of Apples and Pears were shown for competition, and a very good collection of nearly 100 dishes were shown (not for competition) by Mr. Roberts, gardener to Hussey Packe, Esq., Prestwold. Dinner table plants were well shown, but specimen plants of Chrysanthemums were poorly represented. A few years ago these were the special feature at the Loughborough Shows.—ALMA.

#### TORQUAY.—NOVEMBER 11TH.

As usual, the Bath Saloons were chosen for the autumn Exhibition of the Torquay Horticultural Society, and rightly so, for they are specially adapted for a meeting of this sort, allowing of ample space for the effective arrangement of the exhibits, which was carried out this time with commendable taste. The groups of Chrysanthemums, of which there were about twenty, were arranged in circular form on the floor of the large tennis court in conjunction with the groups of miscellaneous plants on raised platforms 1 foot high, the base of which was covered with green baize; these were of square form, the corners of each being so arranged that they pointed to the openings made between the circular groups; and as these, composed of Chrysanthemums, were restricted to 6 feet high, and it was stipulated that a tall Palm or foliage plant should be employed in the centre of each and a dressing of Fern allowed at each base, the effect was not marred by excessively tall plants and bare stems that are so often displayed in Chrysanthemum groups. It was a treat much appreciated by the visitors, as ample space between the groups was left for promenading. The miscellaneous plants were mainly flowering ones, with a judicious addition of foliage plants and Fern to give the whole an harmonious effect. Around the sides of the building were arranged in bank-like form the collections of plants, mainly from nurserymen, not for competition, which were freely exhibited, adding considerably to the decoration of the room. The Committee, with Mr. J. N. Whitehead as Honorary Secretary, deserve praise for the manner in which all the details were carried out of so successful an Exhibition.

Groups deserve a first notice, so numerous were they contributed. The principal class was that for one of 8 feet diameter, arranged for effect, and which was to contain not less than eighteen varieties. In this four competed. The premier award went to Mr. A. Searle, gardener to J. N. Whitehead, Esq., Gnaton, Torquay, the plants being dwarf, carrying good foliage and fine blooms, while the arrangement left little to be desired. Mr. J. Hunt, gardener to P. B. Drinkwater, Esq., Lyncombe, Torquay, was a good second. Mr. J. Slowman, gardener to Captain W. Fane Tucker, Braddon Tor, Torquay, third. Six competed in the 7 feet groups, with similar conditions binding the exhibitors. Mr. W. Satterby, gardener to Mrs. Matthew, Braddon Villa, Torquay, was the most successful among six competitors, Mr. F. Ferris, gardener to J. W. Kimber, Esq., Tracey, Cockington, second, both showing much taste in arrangement. Mr. J. Slowman gained premier award in the group for miscellaneous plants of 7 feet square with a light arrangement of suitable material. Mr. W. Satterby second. Specimen Chrysanthemums call for little comment, they being but moderately contributed both in numbers and quality. Orchids were shown well. For three Mr. G. Lee, gardener to W. Lavers, Esq., Upton Leigh, Torquay, was first, having *Cypripedium Harrisonianum*, *Miltonia candida*, and *Oncidium ornithorhynchum* in creditable condition. Mr. G. Medland, gardener to Morton Sparke, Esq., Torquay, second. Mr. Lee staged a plant with three good spikes of *Cymbidium giganteum superbum*, a good variety, in the class for one Orchid. Mr. G. Medland second.

Cut blooms were not only staged in large numbers but were of commendable good quality right through. The principal class was that for thirty-six distinct, half to be incurved and the remainder Japanese, a silver cup being given as first prize. Five competed, first honours being easily secured by Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Glenaragh, Teignmouth, with the following in very fine condition. Incurved:—Alfred Salter, Miss M. A. Haggas, Jeanne d'Arc, Golden Empress, John Doughty, Lord Alcester, Nil Desperandum, Empress of India, Mrs. S. Coleman, Princess of Teck, Violet Tomlin, Lady Dorothy, Mrs. Heale, Princess of Wales, Refulgens, Queen of England, Jardin des Plantes and Lady Hardinge. Japanese:—E. Molyneux, Etoile de Lyon, William Lane (very fine), Puritan, Vivand Morel, W. W. Coles, W. H. Lincoln, A. H. Neve, Mons. Bernard, Mdme. Laing, Japonais, Sunflower, Gloire de Rocher, Louis Boehmer, Stanstead White, Beauty of Castlewood, Florence Davis, and Mdme. Baco; Mr. J. Stiles, gardener to Miss Fripp, The Grove, Teignmouth, second with a good stand; Mr.

A. Searle third with a creditable collection. For twelve incurved, distinct, Mr. J. Stiles won with medium sized, neatly dressed blooms of the following varieties: Empress of India, Lord Wolseley, Princess of Wales, Jeanne d'Arc, Golden Empress, Queen of England, Miss M. A. Haggas, Violet Tomlin, Lady Hardinge, Nil Desperandum, Prince Alfred, and Baron Beust; Mr. A. Searle a good second; Mr. H. Veale, gardener to the Rev. A. H. Timms, Wolborough Rectory, third. For twelve Japanese, distinct, Mr. G. Foster was an easy first with William Lane, Etoile de Lyon, Vivand Morel, W. H. Lincoln, Condor, Sunflower, E. Molyneux, Japonais, Cesare Costa, Gloire de Rocher, Florence Davis, and Louis Boehmer; Mr. A. Searle second; Mr. J. T. Ebbutt, gardener to the Rev. H. A. W. Hamilton Gell, Winslade, Exeter. For six varieties Messrs. Foster and Searle were the winners in the order that their names are given. For the best six large flowered Anemone varieties, Japanese excluded, Mr. Foster, with Lady Margaret, Mrs. J. Benedict, and Miss Annie Lowe, was first, staging full solid blooms; Mr. Searle second.

For the same number of Japanese Anemone varieties, Mr. Searle won with M. C. Lebocqz, Jeanne Marty, and Fabian de Médiana in good condition. Mr. W. H. Veale second. For six any one variety of reflexed, Mr. Stiles won with Cullingfordi in a strong competition. Mr. Foster second. The positions were reversed in the next class, six large flowered Anemones, one variety, the best Mrs. Judge Benedict, very fine. For six incurved, one variety, Mr. Foster won with Empress of India, full and fresh. Mr. Searle second. Mr. Foster again won in the class for six of any white Japanese with Stanstead White; Mr. Searle following with Avalanche. For six yellow, one variety, Mr. Searle with Boule d'Or was first from Mr. Foster, he having W. H. Lincoln. For twelve of any Japanese variety, Mr. Stiles won with Etoile de Lyon, a bit pale, though full, from Mr. Foster's Avalanche. Mr. Stiles won for six blooms, any single variety, with Admiral Sir T. Symonds, extremely fine; Mr. Searle followed with the same variety.

Vegetables were both numerous and good. For six varieties, Mr. W. Satterby was first among several others who staged well. Fruit was shown both largely and well.

Groups of plants not for competition were sent by Messrs. Curtis and Sanford, Devon Nurseries, Torquay; Mr. W. B. Smale, Torquay; Messrs. Horn & Sons, St. Mary's Church; and Messrs. T. Allward and Son, Braddon's Hill Nursery, Torquay. Messrs. R. Veitch & Son, Exeter, sent a collection of Apples of good quality of leading varieties.

#### MONMOUTH.—NOVEMBER 11TH AND 12TH.

THE Monmouth Chrysanthemum Society held their annual Exhibition again in the Rolls Hall, and was equal, if not superior to any former Show. The groups were not so plentiful as usual, but the cut-bloom classes were well filled with fine blooms generally. Fruit also was of a high quality; Apples being better shown than at any previous Show. New exhibitors were rather numerous, and much interest is taken in the Society by the gentry for a long distance round. The silver cup given for the best group, arranged in a space of 84 feet, brought only one exhibitor, Mr. J. M. Bannerman, Wyastone Leys, Monmouth, who staged a very fine group, which well deserved the first honours awarded. For a group occupying a space of 36 square feet, Mr. Panter, Whitchurch, Monmouth, was an easy first; Col. H. C. Gould, Leasbrook, second; Mrs. Victor Hughes, The Priory, third. In the trained specimen classes Mr. J. M. Bannerman was the chief prize winner.

In the cut-bloom classes the competition was keen, the blooms being of a high order of merit. For twenty-four varieties of incurved, Mr. J. M. Bannerman was first with Alfred Salter, Lady Hardinge, Jardin des Plantes, Queen of England, Miss M. A. Haggas, Princess of Teck, Golden Empress, Violet Tomlin, Charles Gibson, Lord Alcester, John Lambert, Refulgens, Queen of England, Empress of India, Mrs. S. Coleman, Mrs. W. Shipman, Prince Alfred, J. Salter. C. Lee Campbell, Esq., Glewston Court, Ross, second with Miss M. A. Haggas, Miss V. Tomlin, Baron Beust, Mrs. Naish, Lord Wolseley, Prince Alfred, &c., fine. For twenty-four Japanese Mr. J. M. Bannerman came first with E. Molyneux, R. Bottomley, C. Sharman, Mr. H. A. Neve, Madame C. Audiguer, Mrs. J. Wright, A. Clibran, H. Cannell, Thomas J. Laing, M. J. Pigny, Etoile de Lyon, G. Daniels, Volunteer, Japonaise, Stanstead White, Mr. F. Jameson, Condor, J. Delaux, Mr. E. A. Carrière. C. Lee Campbell, Esq., second: his Etoile de Lyon, E. Molyneux, Carew Underwood, Mrs. Alpheus Hardy being very good. Rev. G. Herbert, Llangarren, Ross, third. For twelve incurved, V. H. K. Collin, Esq., Whitchurch, was first; Rev. G. Herbert, second; and Mr. G. Temset, English Bicknor, third. With twelve Japanese, Mr. W. Digwood, The Gardens, Pengethly, Ross, was first; V. H. K. Collins, Esq., second; Mr. G. Temsett, third. In the twelve reflexed class, J. M. Bannerman, Esq., was first, with King of Crimson, Phidias, Pink Christine, Peach Christine, Dr. Sharp, Mrs. Forsyth, Cloth of Gold, &c.; C. Lee Campbell, Esq., second; Rev. G. Herbert, third. For twelve Anemones, C. Lee Campbell, Esq., was an easy first, with Lady Margaret, Gluck, Jeanne Marty, James Weston, George Sands, Souvenir de Madame de Blandanière, Duchess of Edinburgh, Acquisition, Emperor, &c.; Rev. G. Herbert, second. Twelve Pompons were well shown by Rev. G. Herbert; W. Morris, Esq., High Street, Ross; Rev. W. S. Clarke, The Thorn, Ross, who won in the order named. J. A. Rolls, Esq., The Hendre, Monmouth, exhibited, not for competition, some excellent Japanese and incurved blooms, second to none in the Show, also a splendid spike of *Phalænopsis amabilis*; likewise a beautiful group of flowering and foliage plants. Bouquets, sprays, wreaths, &c., were very good. Mr. E. T. Hill, Westbury-on-Trym, and Mr. J. Nowel



Hereford, being the chief prizetakers; the latter showing a magnificent wreath, which attracted much attention.

The fruit classes were well filled, C. Lee Campbell, Esq., being first in black Grapes with three fine bunches of Alicante; Mr. J. Nowell, second, with the same variety; Captain Marling, Clanna, Sydney, third, with Gros Colman. White Grapes, three bunches, first C. Lee Campbell, Esq., second Captain Marling, both showing Muscat of Alexandria; Mr. E. T. Hill, third, with Buckland Sweetwater. For six dishes of Pears, Captain Marling, Mr. E. T. Hill, and the Rev. — Tweed, won in the order named. In the Apple classes C. Lee Campbell, Esq., was first for the best collection, for the best six dishes for dessert, and for three dishes of culinary; other prizetakers being Mr. T. Barratt, Walford, Captain Marling, Rev. Tweed, Mr. E. T. Hill, Rev. G. Herbert, and Mr. W. Luton, Hilston Park.

Vegetables were well exhibited, C. Lee Campbell taking first honours for the collection given by the Society. Messrs. Sutton & Sons, and Messrs. Webbs, amateurs and cottagers, staged highly creditable produce in the classes provided for them, each year showing a decided improvement on the previous one, and must be gratifying to all concerned.

#### TIVERTON.—NOVEMBER 12TH.

THIS fixture clashed with several other south-western shows, and as a consequence there were fewer entries than usual in the principal cut bloom classes, though in all other respects the display was fully equal to what has been seen in former years. The show of Apples and Pears was both extensive and good, and more than compensated for other failings. Mr. R. P. Cosway is the Honorary Secretary of the Society, and with him are associated a good working Committee of gentlemen interested in horticulture and professional gardeners.

Groups of Chrysanthemums were numerous and good, the various exhibitors running each other more closely than often happens. For that of the largest size Mr. T. Tapscott, gardener to Col. Greatwood, was first, having well-grown plants with fine blooms very effectively arranged in a semicircle. Mr. C. Mayne, gardener to Mrs. Las Casas, was a very creditable second. With a smaller group Mr. J. Williams, gardener to Mrs. Lane, was first, having a very well-finished arrangement, and a capital box of blooms. He was closely followed by Mr. Sedgbeer, gardener to Miss D. Carew; the third prize going to Major Carleton. The best six plants of incurved varieties were shown by Mr. G. Splatt, gardener to the Rev. T. U. Cross, who was also first for a similar number of Japanese varieties, Mr. J. Prescott being second in the latter class. Mr. Splatt was the only exhibitor of six mixed varieties, and was deservedly awarded a first prize. A feature at the Tiverton Shows are groups of Zonal Pelargoniums 3 feet square, a wonderful lot of small, grandly flowered plants being got into that space. Mr. G. Splatt was well first, Major Carleton second, and Mr. A. Burroughs, gardener to Mrs. North-Row, third. Mr. A. Burroughs was first and Mr. Splatt second with Primulas. Mr. C. Mayne, gardener to Mrs. Las Casas, had the best table plants, Mr. J. Parkhouse being second, and Mr. Burroughs was first for six good pots of double Violets, the second prize going to Mr. H. Solman, gardener to W. H. Dunsford, Esq.

The Japanese stands made a good display. With eighteen blooms, distinct, Mr. A. Burrows, was well first, having good blooms of Golden Dragon, Edwin Molyneux, Pelican, L'Adorable, F. A. Davis, Louis Boehmer, Avalanche, and M. Garnier. There was much better competition with twelve Japanese varieties, and with these Mr. G. Heath, gardener to Sir W. H. Walrond, was first, his best blooms being Etoile de Lyon, Avalanche, Edwin Molyneux, Mr. C. W. Wheeler, Belle Paule, Stanstead Surprise, and Meg Merrilies. Mr. S. Tottle, Taunton, was second. The best six Japanese were shown by Mr. A. Burroughs, who had fine fresh blooms of Mr. Cannell, Etoile de Lyon, Edwin Molyneux, Louis Boehmer, Avalanche, and Meg Merrilies. Mr. G. Splatt was second. For twelve incurved varieties Mr. S. Tottle was first and Mr. C. Mayne second. Major Carleton was the only exhibitor of six Anemone-flowered varieties, and was deservedly awarded a first prize. The class for twelve mixed Chrysanthemums was very well filled. Mr. Splatt was first, the blooms of J. Delaux, Sunflower, Mrs. E. W. Clarke and Amy Furze being noteworthy. Mr. T. Heath was second, and Mr. J. Parkhouse third. Mr. Solman had a first for a well-made hand bouquet composed of Chrysanthemums and Fern fronds.

The best collection of twelve varieties of dessert Apples was staged by Mr. A. C. Williams, gardener to W. C. Sim, Esq., who had a capital lot of well selected fruit. Mr. H. Solman was a good second; and Mr. T. Heath third. Mr. Williams was also first for twelve varieties of culinary Apples; Mr. T. Heath being a close second. Mr. S. Tottle staged the best six dishes of dessert Apples; Mr. J. Abram being second. Mr. A. C. Williams had a first for six varieties of Pears, and was second with three varieties, Mr. T. Heath being first. A large number of classes were provided for individual varieties of Apples and Pears, in most of which the competition was keen, the names already given occurring very frequently in the prize list. Messrs. Robert Veitch and Son, Exeter, arranged a fine display of Apples and Pears not for competition; as also did Mr. G. G. Selater, Exeter; Messrs. Jarman and Co., Chard; and Mr. W. Melford, Tiverton.

#### BIRKENHEAD AND WIRRAL.—NOVEMBER 12TH.

THE fifth annual Exhibition of Chrysanthemums, Fruit, &c., was held on Thursday, November 12th, in the Hall of the Young Men's Christian Association, Grange Road, and as regards the exhibits showed a falling off from last year, there being only two entries of forty-

eights and twenty-fours. The Exhibition was opened by the Mayor of Birkenhead (Alderman Willmer), who, in an excellent speech, commended the Society to the hearty support of the inhabitants of the town and surrounding district, and it is to be hoped the remarks made will have the desired effect of adding greatly to the subscription list for next season. Before commenting on the prizewinners there is one point which I think the Committee might remedy on a future occasion—viz., by adding the addresses of the various exhibitors. To simply give the names leaves a rather vague impression, and at a Show such as that at Birkenhead ought to be remedied.

The cut blooms formed the chief centre of attraction, and with one or two exceptions they were of the highest quality. In the open class for forty-eight, Mr. Malcolm, gardener to J. Tomkinson, Esq., was deservedly awarded chief honours, the Japanese being solid and fresh all through. They were as follows:—Etoile de Lyon (2), Sarah Owen (2), Condor (2), M. Bernard, Stanstead Surprise, Louis Boehmer (magnificent) E. Molyneux, Ralph Brocklebank, Val d'Andorre, Criterion (fine), Avalanche, Sunflower (2), Golden Dragon (2), Madame Baco, Belle Paule, Ada Spaulding, Jeanne Délaux, Soleil Levant, and Puritan. Incurved:—Lord Alcester (2), John Lambert (2), Queen of England (2), Golden Empress, Beauty, Jeanne d'Arc, Violet Tomlin (2), Mrs. S. Coleman, Mrs. Heale, Pink Venus, Prince Alfred, Miss M. A. Haggas (2), Lord Wolseley, Princess of Wales, White Venus, Lady Harding, and Barbara. The other exhibitor was Mr. T. Watson, gardener to T. S. Hannay, Esq., whose incurved varieties were very fine, but the Japanese were somewhat weak, Stanstead White and Miss Anna Hartzhorn in the Japanese being especially fine, and Lord Wolseley in the incurved—altogether an excellent stand.

For twelve incurved Mr. T. Ranson, gardener to H. R. Rodger, Esq., Spital, was a good first, having Robert Cannell and John Salter fine. For twelve Japanese the same exhibitor was again first, having capital blooms of M. Bernard, E. de Lyon, Gloire de Rocher, and W. W. Colcs. In each case he was followed by Mr. G. Lyon, gardener to J. H. Kenion, Esq., Rock Ferry, who had some beautiful blooms; the third positions were occupied by Mr. T. Winkworth, gardener to Ralph Brocklebank, Esq., Childwall Hall, and Mr. S. E. Haines, gardener to M. Laird, Esq., Claughton. In the local class for twenty-four blooms Mr. Ranson achieved another success, his best Japanese being Gloire de Rocher, Etoile de Lyon, Stanstead White, Mrs. F. Jameson, Japonais (very good), Puritan, and W. H. Lincoln. Incurved: Robert Cannell, Violet Tomlin, and Mrs. Heale. Second, Mr. S. E. Hains, with good blooms. With twelve incurved and twelve Japanese Mr. G. Lyon was well ahead, his blooms being remarkably good throughout, and fine in colour. In the former Lord Wolseley, Violet Tomlin, and Refulgens, and Avalanche and Condor in the latter, stood out conspicuously. The second honours in each class fell to Mr. T. Watson, Mr. A. H. Neve and Advance being very good in the Japanese. For six incurved, the same number of Japanese, and in the class for twelve blooms for those who have not shown more than twelve blooms, Mr. J. Williams, gardener to C. J. Proctor, Esq., Noctorum, secured first positions. In the class for six incurved and six Japanese for those who have not won a prize, and for six untrained plants, Mr. A. Price, gardener to F. Jevons, Esq., Claughton, was placed first; Mons. Bernard and E. Molyneux being good in the latter class. J. Darlington, Esq., was placed first in the class set apart for those who do not employ a gardener.

Fruit was largely shown, but the evidence of the season was apparent, from what shown last year. For six dishes fruit (Pines excluded) Mr. J. Barker, gardener to J. W. Raynes, Esq., Rock Ferry, was placed first, his best fruit being Muscat and Alicante Grapes and Marie Louise Pears; Mr. M. Quirk, gardener to W. Porter, Esq., Thingwall, being a close second, his best dishes being the same as the former. Mr. Hannagan, gardener to R. C. Naylor, Esq., Hooton Hall, third, with good Conqueror of Europe Melon and Figs. Two bunches black Grapes: First, Mr. T. Ferguson with large well-coloured bunches of Gros Guillaume; second, Mr. Quirk; third, Mr. J. Barker. Two bunches white Grapes: First, Mr. W. Wilson, gardener to H. Cunningham, Esq., Gorse Cop, Gateacre, with beautifully finished samples of Muscat of Alexandria; second, Mr. J. Barker, with the same variety, but not quite finished; third, Mr. Quirk. Four dishes of Pears: First Mr. Hannagan, second Mr. Ferguson, third Mr. R. Hannagan, gardener to T. Comber, Esq. One dish Pears: First Mr. Winkworth, with well-finished Marie Louise. Six dishes culinary Apples: First Mr. J. Davis, Bodenham, Leominster, with Lord Suffield, Stirling Castle, Striped Beefing, Mère de Ménage, Warner's King, and Blenheim Pippin; second Mr. Hannagan; third Mr. Ranson. Mr. Davis secured honours for six dishes dessert and second for single, the first prize for a single dish being taken by T. Williams, Esq., Higher Bebington, all with Warner's King. Four dishes dessert: First Mr. Hannagan; second Mr. A. Brown, gardener to G. Webster, Esq., Upton, Mr. R. Hannagan, was first with single dish of dessert.

Primulas, Hyacinths, Cyclamens, table plants, and Mignonette were well represented, the prizes going to Messrs. Hains, Sanbach, Esq., Price, and Brown in the order named. For one bouquet Mr. J. Donovan, 34, Westbourne Road, Birkenhead, had an easy first, beautifully arranged, the same exhibitor having on view a splendid anchor composed of the choicest white flowers and Violets, to which a certificate was accorded. The same distinction was awarded to Mr. Henry Middlehurst, seedsman, Manchester Street, Liverpool, for a superb collection of Potatoes, bulbs, &c. Other local nurserymen received awards of merit. Mr. G. Burden, gardener to G. Cockburn, Esq., Lingdale Lodge, Oxtou, exhibited his sport from Princess Beatrice. It is of a similar build to the parent, but of a bronzy rose, much after the colour of Mrs. Shipman. An



excellent concert had been arranged for the evening, and it was a wise hit the Committee made in holding it in the gymnasium attached to the building. Not only was the hall packed in every part, but those who had inspected the beauties of the flowers went afterwards to enjoy the music, thereby leaving room for all to inspect the Show. The Secretary (Mr. Swan) and the Committee arranged everything most successfully.

#### WARE.—NOVEMBER 12TH AND 13TH.

THE second annual Exhibition of this Society was held in the Town Hall, Ware, on the 12th and 13th inst. In point of entries the large classes showed a falling off in entries, probably owing to some of its prominent members exhibiting at the National Society's Show. The general quality of the exhibits, however, fully maintained its standard. Judging from appearances we should also say the Show will prove a financial success. The collection of Chrysanthemums in pots occupying 24 square feet, had but two entries. Mr. G. Fulford, gardener to R. Walters, Esq., Ware, taking the leading honours easily, Sunflower, Louis Boehmer, Barbara, Mrs. Alpheus Hardy, and Violet Tomlin were the chief features. The second prize was awarded to Mr. Collins, gardener to Stanley Gray, Esq., Ware. The group of miscellaneous plants received but one entry from Mr. G. Fulford, which was deservedly awarded the first prize. The specimen plants were below the usual standard, and, like the leading classes, was weak in competition. Primulas are very good, Mr. A. Gull, gardener to J. W. French, Esq., Gt. Amwell, taking first; Mr. R. Smith, gardener to A. Cox, Esq., Ware, and Mr. W. Patmore, gardener to R. Allen, Esq., Ware, taking the other prizes in the order named. The classes for Cyclamen and Zonal Pelargoniums were rather weak. The Committee should see to these classes another year.

Cut blooms.—The principal prize for twenty-four blooms, twelve Japanese and twelve incurved, found Mr. Cox, gardener to Colonel Trotter, Brickenden, just leading, his superior finish to the incurved flowers no doubt gained the victory. Avalanche, Beauty of Castlewood, E. Molyneux, Gloire de Rocher, Golden Empress, Violet Tomlin, and Empress of India were his best. Mr. G. Fulford was well ahead with Japanese, but a little roughness was apparent in the incurves. His best blooms were Stanstead White, Etoile de Lyon, Meg Merrillies, and Puritan. In the class for twelve incurved Mr. G. Fulford was adjudged first prize. The sixes did not contain anything very striking. Mr. J. Turk, gardener to P. Bosanquet, Esq., Little Berkhamstead; Mr. Dover, gardener to — Barklay, Esq., Hoddesdon, and Mr. E. Collins, taking the prizes in the incurved section in the order named. The Japanese again found Mr. J. Turk to the fore, while Mr. R. Dover and G. Collins followed. The class for reflexed flowers was very weak, both in quantity and quality. Anemone varieties showed an improvement, Mr. J. T. Walters, gardener to E. Clapham, Esq., Cheshunt, leading, following at a respectful distance was Mr. J. Turk. Mr. R. Smith came first with Pompons.

In the Grape classes Mr. R. Smith was awarded premier honours with Alicante; Mr. Gull following with good bunches of Lady Downe's slightly deficient in colour. Apples and Pears were a great feature of the Exhibition, and made a nice show in themselves. The baskets of vegetables were well filled and arranged. Numerous classes are given for amateurs, likewise for cottagers. The amateurs have certainly advanced very much, both with pot plants and cut blooms. The baskets of vegetables in the cottagers' class was keenly contested, the quality throughout the class was excellent. Groups were staged by Mr. W. M. Alexander, gardener to E. S. Hanbury, Esq., Messrs. Francis, nurserymen, Hertford, and Mr. Chapman, Bluecoat Nurseries, Ware. The whole Exhibition was tastefully arranged, and reflects great credit on Messrs. J. Rogers, jun., and G. Fulford, the Secretaries, and their efficient Committee.

#### WIMBLEDON.—NOVEMBER 12TH AND 13TH.

THIS, taken as a whole, was a very pretty Show, some falling off of exhibitors being manifest in one or two classes, principally in those for groups and specimen plants; but although not so well contested as in some previous years, there was still some remarkable fine quality displayed in the exhibits of at least one competitor in each of these classes.

Four classes for groups were arranged in the schedule, and all were competed for by several exhibitors in each class. The most interest naturally centred in the larger Chrysanthemum group, for which a silver cup was offered as first prize, which was well and worthily won by Mr. F. Chandler, gardener to the Rev. Canon Haygarth, The Vicarage, Wimbledon, who set up a really excellent group, the plants throughout well grown, having good foliage, and fine fresh flowers. An excellent feature also in its arrangement was that the colours were, so to speak, grouped, and regard paid to the harmony thereof; a point deserving more consideration at the hand of even experts in grouping than it has up to the present time received. Two other exhibitors competed in this class, but their groups were of indifferent quality, and not calling for further notice.

In the various classes for specimen plants of Chrysanthemums also one exhibitor had most excellent exhibits in each class, of course taking all the first prizes in these classes. This was Mr. W. Thornton, gardener to J. Crocker, Esq. The second prizes fell to the share of Mr. J. Bentley, but his plants were much inferior to those of Mr. Chandler.

In cut flowers, the class of most importance was one for forty-eight blooms—twenty-four incurved, not less than eighteen blooms, and

twenty-four Japanese, distinct. Prizes, a challenge cup value 15 guineas and cash £5 as first, given by W. B. Faulkner, Esq.; second, £4; third, £3, these given by the Society. This is the second time of offering the cup. Last season it was won by W. Mease, gardener to A. Tate, Esq. Downside, Leatherhead, and this time the same exhibitor has again been successful; but as it has to be won three times Mr. Mease has again another year to enter the arena and do battle for it before it becomes his or his employer's absolute property. Mr. Mease's flowers were of very high quality throughout, and he was easily first, his varieties were Japanese, Etoile de Lyon, E. Molyneux, Vivian Morel (very fine), Mrs. Cannell, Meg Merrillies, Boule d'Or, W. W. Coles, Sunflower, Madame Baco, Mrs. Neve, Triumph des Chatelets, Mrs. Wheeler, Stanstead White, Lilian B. Bird, Carew Underwood, R. Brocklebank, Puritan, Sarah Owen, Mr. H. Cannell, Album Finbriatum, Madame J. Laing, Thunberg, Avalanche, and Mrs. E. W. Clarke. Incurved varieties: Lord Alcester (2), Princess of Wales (2), John Salter, John Lambert (2), Empress of India, Miss Haggas (2), Violet Tomlin (2), Queen of England (2), Golden Empress, Jeanne d'Arc, Mrs. Heale, Empress Eugénie, Mrs. Shipman, Lady Dorothy, Hero of Stoke Newington, Mrs. N. Davis, and Princess Teck. The second prize in this class was taken by Mr. Carpenter, gardener to Major Colis Brown, Byfleet, with a very good lot indeed of both Japanese and incurves. Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park, was third, with neat bright flowers.

For twenty-four blooms, twelve incurved and twelve Japanese distinct varieties, Mr. Mease was again first, his varieties being incurved: Queen of England, Empress of India, John Lambert, Lord Alcester, Golden Empress, Mrs. Coleman, Miss Haggas, Princess of Wales, Violet Tomlin, Mrs. Heale, Jeanne d'Arc, Hero of Stoke Newington. Japanese: Etoile de Lyon, Condor, E. Molyneux, Vivian Morel, Sarah Owen, Avalanche, W. W. Coles, A. H. Neve, Boule d'Or, Madame J. Laing, Madame Baco, and Mr. H. Cannell. Three competed in this class, Mr. C. W. Knowles, gardener to Mrs. C. Egerton, being second; Mr. H. Alderman, gardener to Gilliat Hatfield, Esq., third. In another class for twelve incurved, distinct, W. Mease was again first; Mr. J. Wilkins, gardener to J. M. Pearson, Esq., second; C. W. Knowles third. In a corresponding class for twelve Japanese, Mr. Mease was again first, Mr. Wilkins second, and Mr. H. Alderman third.

Dr. Walker, the popular Hon. Secretary, had several meritorious exhibits in cut blooms, being first with six incurved, second six Japanese, and third for twelve Japanese. Two National Society's certificates were given, one to each of the two exhibitors in the amateur classes, whose exhibits were most meritorious, one being awarded to Dr. Walker and the other to W. B. Faulkner, Esq. A pretty and attractive stand of Pompons was shown by Mr. H. Alderman. Bunches of three on stems with foliage, twelve varieties, to which first prize was awarded.

Miscellaneous groups of foliage and flowering plants were somewhat numerous, but of no very high order of merit. Baskets of plants were, however, remarkably well shown, these being ordinary nursery baskets some 3 feet 6 inches in diameter filled with foliage and flowering plants, bright and tastefully arranged. First, Mr. Newell; second, Mr. W. Thornton. The show of Apples was a remarkably fine one—notably three dishes shown by Mr. H. Alderman, the varieties being Peasgood's Nonesuch, Blenheim Orange, and Wellington.

#### WINCHESTER.—NOVEMBER 12TH AND 13TH.

A COMPACT Exhibition, of excellent quality, was that held in the Guildhall in this ancient City on the dates named; in fact, it was one of the brightest yet held by the Society. Mr. Shenton, as usual, had all the arrangement quite of a desirable kind.

Cut blooms formed the most important feature of the Show, being numerous and of good quality. The principal class was that for forty-eight, not less than eighteen varieties of incurved in twenty-four blooms, the same conditions governing the Japanese section. Unfortunately but two entered—Messrs. Drover, nurserymen, Fareham, and Mr. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Winchester. The former secured an easy victory for a capital stand of blooms in both sections. The names were—Japanese: Mrs. C. Wheeler (2), Sunflower (2), Etoile de Lyon (2), Sarah Owen, E. Molyneux (2), Condor (2), Mrs. F. Jameson (2), Stanstead White (2), Boule d'Or, J. Delaux, M. Bernard, Pelican (full), Lilian Bird, M. E. A. Carrière, Louis Boehmer, Carew Underwood, W. H. Lincoln, and Mrs. Alpheus Hardy. Incurved: Empress of India, Golden Queen of England (2), Alfred Salter (2), Lord Alcester (2), Empress of India (2), Golden Empress (2), John Doughty (2), Miss M. A. Haggas, Mrs. S. Coleman, Robert Cannell, Queen of England, Mrs. Heale, Charles Gibson, Jeanne d'Arc, Princess of Wales, Mrs. N. Davis, Lady Carey, Princess of Teck, and Lady Dorothy. Mr. Neville's stand contained some very good blooms, but on the whole they were smaller than those in the winning stand.

For twenty-four cut blooms, not less than eighteen varieties, any section, Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rookesbury Park, Wickham, was an easy first, staging sixteen incurved and eight Japanese, all of good quality. The principal sorts were Etoile de Lyon, Golden Empress, Princess of Wales, Miss M. A. Haggas, and Cherub, Mr. C. H. Holloway, gardener to F. W. C. Reed, Esq., Down Grange, Basingstoke, second, with smaller flowers; third Mr. Budd, gardener to F. Dalgety, Esq., Lockerly Hall, Romsey. In the class for twenty-four Japanese, Mr. Trinder, gardener to Sir H. Mildmay, Bart., Dogmersfield Park, Winchfield, easily won with large, heavy, and brightly coloured blooms, the more noticeable being Sunflower, Louis Boehmer, Mons. Elliott (very fine), Mrs. Falconer Jameson, Stanstead White, Madame



Laing, and Madame C. Audiguier. Mr. Neville a good second. For twelve incurved, distinct, Mr. N. Molyneux had but little to spare in wresting from Messrs. Drover the premier award, his blooms were neat and good in quality; the names were Empress of India, Golden Queen, Golden Empress, Lord Alcester, Mrs. S. Coleman (extra), Miss M. A. Haggas, John Salter, Princess of Wales, Hero of Stoke Newington, Mrs. Heale, Nonpareil, and Violet Tomlin. Messrs. Drover's second prize blooms were heavy, but a trifle wanting in freshness. Mr. Neville third.

For twelve, in not less than eight varieties, there was capital competition, Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak, Bishopstoke, first; Mr. F. Smith, gardener to Mrs. Barry Dowling, Rathmines, Winchester, second. For twelve Japanese, Mr. N. Molyneux easily gained the premier position with heavy, well-arranged blooms, Etoile de Lyon, W. W. Coles, and Puritan being worthy of mention. Mr. Budd second. Mr. G. Meldon, gardener to Miss Turner third. Reflexed varieties were but poorly represented. Mr. G. Meldon staged the first prize lot, Mr. E. Carr second.

Plants in groups were arranged around the sides of the hall, and made a bright feature. For the best group of Chrysanthemums Mr. F. Smith, gardener to Lady E. Wodehouse, Mayfield, Winchester, was an easy first with plants dwarf in growth, carrying good foliage and blossoms. Second, Mr. J. Wareham, gardener to Mrs. Gunner, Winchester; third, Mr. G. Smith, gardener to Major Chichester, Medcroft, Winchester. For a group of miscellaneous plants arranged for effect, Mr. E. Astridge, gardener to W. Barrow Simmonds, Esq., Abbots Barton, Winchester, was first with a neat arrangement. Mr. F. Munt, gardener to Mrs. C. Warren, Northlands, Winchester, second. Mr. Kaines, Winchester, secured leading honours for specimen Chrysanthemums for both three incurved or reflexed, three Japanese, and for single specimen, any variety, with fairly meritorious exhibits. Mr. J. Amys, gardener to the Hon. Mrs. Elliott Yorke, Hamble Cliff, Netley, had the best table plants, a good six. Primulas were a strong class, Mr. G. Meldon being an easy first.

The following classes were well contested, making a praiseworthy display. For the best arranged stand of Chrysanthemums and other flowers Miss Ladhams, Shirley, Southampton, led; Miss Nelly Owen, Basingstoke, second; Miss Kate Golding, Portwood, third.

The next class, that for a stand of cut hardy shrubs, Ferns and Grasses, produced a remarkable display. Miss Flight gained premier position for one of the best arrangements we have seen, the colours being well blended, and yet withal simple; Miss Ladhams second, Miss Nelly Owen third.

Fruit was contributed in small quantity, but of excellent quality. Grapes were a distinct feature. For three varieties, one bunch of each, Mr. Budd gained leading honour with Alicante, Muscat of Alexandria, and Gros Colman, in good condition. Mr. T. Hall, gardener to S. Montague, Esq., M.P., South Stoneham House, Southampton, second. Two bunches any black variety, Mr. J. Gardner, gardener to Colonel Stratton Bates, Twyford Lodge, was an easy first, staging Alicante in grand condition; Mr. G. Meldon second with the same variety. For two bunches white, Mr. F. Farwell, gardener to F. Bowker, Esq., sen., Larkhills, Winchester; Mr. Budd second. Apples, both kitchen and dessert, were well represented; in the former class Mr. G. Best, gardener to C. W. Chute, Esq., The Vyne, Basingstoke, secured leading honours. Mr. Amys had the best three dishes of dessert, capitally coloured fruit of popular kinds. Mr. Hall staged a fine lot of Pears, for which he received first prize. Vegetables are always well shown here. For eight varieties Mr. Best won easily; Mr. Amys second.

#### EXETER.—NOVEMBER 13TH.

THE Devon and Exeter Horticultural Society were rather unfortunate as regards weather for their Show, held in the Victoria Hall on Friday last. The Exhibition, taken collectively, was, however, one of the best ever held in the city, the cut blooms of both Japanese and incurved being very good, although the competition was not so keen in some classes as last year. The groups were effective, being mostly circular, and arranged in the body of the hall. A Palm is allowed for a central plant, and small Ferns and Grasses for the edging, which adds very much to the general effect.

*Cut Blooms.*—In the leading class (that for forty-eight, twenty-four Japanese and twenty-four incurved, in not less than eighteen distinct varieties of each), a silver cup value 5 guineas was offered as first prize, with proportionate second, third, and fourth prizes. Some excellent flowers were staged in this class, Mr. Stiles, gardener to Miss Fripp, The Grove, Teignmouth, securing the first place with very good incurved and Japanese, consisting of the following incurved:—Back row: Empress of India, Lord Wolseley, Golden Empress, Jeanne d'Arc, Lord Wolseley, Queen of England, Lord Alcester, and Empress of India. Second row: Violet Tomlin, Miss Haggas, Baron Beust, Queen of England, Prince Alfred, Golden Empress, Lady Dorothy, and Alfred Salter. Front row: Jeanne d'Arc, Miss Shipman, Lady Hardinge, Baron Beust, C. Gibson, Princess Teck, Nil Desperandum, and Princess of Wales. The Japanese were—back row: M. Bernard, Etoile de Lyon, E. Molyneux, Avalanche, Etoile de Lyon, Lady Lawrence, M. Bernard, Boule d'Or. Second row: Condor, Mr. Wheeler, Mad. Laing, Sunflower, Belle Paule, Comte de Germiny, Avalanche, and Madame Baco. Front row: Beauty of Castlewood, Mr. H. Cannell, Belle Paule, W. W. Coles, Louis Boehmer, Lady Lawrence, Mad. C. Audiguier, and Mr. H. Cannell. Mr. Copp, gardener to W. S. E. Earle-Drax, Esq., Dorset, was a good second, but was weaker in his incurved, although some were very fine; and in his stands were found the premier Japanese and incurved blooms in the Show, the

former being a large solid flower of Lord Alcester, the latter a very fine Stanstead White. Third, Mr. Foster, gardener to H. Hammond-Spencer, Esq., Torquay, noticeable among his incurved being a magnificent bloom of Mrs. Coleman.

For twenty-four Japanese, distinct, Mr. Hawkins, gardener to H. Fowler, Esq., Taunton, was a good first, having Florence Davis (fine), Gloire da Rocher, Baronne de Prailly, Souvenir d'Angèle Amiel, Japonaise, E. Molyneux, W. H. Lincoln, Etoile de Lyon, R. C. Kingston, Mrs. Cannell, Sarah Owen, Madame Laing Mrs. Wheeler, Miss Hartzhorn, Mrs. F. Jameson, Aida, Boule d'Or, Mr. Bernard, Louis Boehmer, Mr. Hardy, Madame Baco, Thunberg, Mrs. Townshend Clarke, and W. W. Coles; Mr. Foster second; third, Mr. Scarle, gardener to J. N. Whitehead, Esq., Torquay.

For a similar number of incurved blooms, Mr. Lloyd, gardener to V. Stuekey, Esq., secured the leading place, followed by Mr. Southey, gardener to Colonel Lueas, both stands being only fairly good. In the following class for twelve distinct, Mr. Copp was first with a very strong stand, Miss Haggas, Queen of England, Lord Wolseley, Venus, and Violet Tomlin among the best flowers. Mr. Searle was second.

In the class devoted to twelve Japanese was found the strongest competition in the Show, and here Mr. Southey was first with good flowers as follows: Madame Laing, Fair Maid of Guernsey, Comte de Germiny, Sarah Owen, Avalanche, Sunflower, Etoile de Lyon, Elaine, Belle Paule, Stanstead Surprise, Lady Lawrence, and Baronne de Prailly; second, Mr. Stiles; third, Mr. Heath, gardener to Sir W. H. Walrond, Tiverton. Prizes were offered for six yellow Japanese, one variety, and also for six of any other colour, the competition in each class being keen, and the flowers very good. For the former Mr. Stiles was a good first with Mr. H. Cannell (very fine); second Mr. Southey, with Sunflower. Mr. Hawkins came first in the latter with Louis Boehmer; second, Mr. Stiles with Etoile de Lyon. Prizes were offered for single Chrysanthemums, but no exhibits were forthcoming.

*Groups.*—Here Mr. Rowland, gardener to W. Brock, Esq., Exeter, was invincible, easily winning the first prizes in the three classes with a very excellent arrangement in each instance. In class 2, for eighteen plants arranged for effect in a circle, this plants were remarkably good, and arrangement all that could be desired. The same remark applies to his group of miscellaneous plants. Mr. Ebbutt, gardener to the Rev. F. Hamilton Gell, was second in the two classes.

*Fruit.*—The show of fruit was extensive, no less than thirty-eight classes being devoted to Apples and Pears; the competitors being plentiful made quite an imposing display. Some very good Grapes were also staged. The three bunches of white Muscats from Mr. Connelly, gardener to J. R. C. Talbot, Esq., were extra good, and easily gained the first prize. For three bunches of Alicante Mr. Dark, gardener to J. M. Miller, Esq., was first with very large clusters of perfect colour. Second, Mr. Martin, gardener to Lord Poltimore. For three bunches of any other variety Mr. Lloyd was a good first with splendid Gros Colman; second, Mr. Dark, with Lady Downe's. Mr. Garland, gardener to Sir T. D. Ackland, won the first prizes for a collection of twenty-four dishes of Apples and that for nine dishes of Pears with splendid samples of each. Mr. Martin was second for Pears. For six kinds, first Mr. Dark, second Mr. Garland. A class was devoted to the best Pears for flavour, some twelve dishes being staged. Mr. Heath was awarded premier honours for delicious Doyenné du Comice; Mr. Garland second with the same variety, scarcely ripe.

Messrs. R. Veitch & Son, Exeter, contributed, not for competition, a collection of Palms and other plants that were much admired, also 200 dishes of Apples and Pears, finely coloured. Messrs. Slater and Randall, Exeter, and R. Smith, Worcester, also sent fruit.

#### LEICESTER AND MIDLAND CHRYSANTHEMUM SOCIETY.

NOVEMBER 13TH AND 14TH.

THIS Show, which was held at the Temperance Hall, Leicester, proved to be an excellent one, and was considered by the Judges superior to any of those held in previous years. The Society have been hampered in their operations by the room being much too small, and hitherto they have been unsuccessful in securing one sufficiently large, and at the same time of a suitable character. The Show this time was very attractive, but unfortunately it left too little space for visitors and the public. It is hoped the Committee will be able to secure a larger room for future shows.

The groups of Chrysanthemums arranged for effect, four in number, two on each side of the hall, formed a very conspicuous feature, and the quality was decidedly better than that of previous years. Far the best, and an excellent one in all respects, was that exhibited by Mr. J. Underwood, gardener to R. Walker, Esq., Enderby Hall; second, W. Calvert, gardener to G. Oliver, Esq.; third, Messrs. J. & H. Hickling, The Old Nurseries, Loughborough.

The most important classes in point of interest were the two for cut blooms, open, twenty-four incurved in not less than eighteen varieties, and twenty-four Japanese, distinct varieties. In the former, Mr. A. Coombes, gardener to the Earl of Dudley, Himley Hall, was first with a fine and fresh lot, his varieties being—Back row: Lord Wolseley, Lord Alcester, Golden Emperor, J. Lambert, Golden Empress, Alfred Salter, J. Lambert, and Empress of India. Middle row: Miss Haggas, Violet Tomlin, Jeanne d'Arc, J. Doughty, Mrs. Heale, Violet Tomlin, Miss Haggas, and Lord Derby. Front row: Mrs. Shipman, Jeanne d'Arc, Sir S. Carey, Jardin des Plantes, Mrs. Coleman, Mr. Brunlees, Mrs. Heale, and Barbara. Second prize, Rev. J. Bird, Walton Rectory



Loughborough. Third, Mr. R. Adams, gardener to P. Harter, Esq., Lubenham, Market Harborough. In this class there were six competitors.

Class 2, for twenty-four Japanese, distinct, brought eight competitors, who made a fine display. The first prize was at first awarded to Mr. A. Coombes, whose stand unquestionably contained the finest flowers, and fully merited the first award; but afterwards it was discovered that he had (undoubtedly inadvertently) failed to comply with the schedule, which called for twenty-four distinct varieties, whereas he had staged only twenty, having four duplicates. This caused his stand to be disqualified, much to the regret of the Committee, and the first prize fell to the lot of Mr. R. Adams, who had in his stands the following varieties:—Back row: E. Molyneux, Sunflower, La Triomphante, Sarah Owen, Moonlight, Madame J. Laing, Avalanche, and Etoile de Lyon. Middle row: Stanstead White, Mons. Bernard, W. W. Coles, Holborn Beauty, Triomphe de la Rue des Châlets, Ralph Brocklebank, Madame Baco, and Alberic Lunden. Front row: Belle Paule, Boule d'Or, Annie Clibran, Mrs. Wheeler, Mrs. J. Wright, Val d'Andorre, Meg Merrilies, and Mad. C. Audiguier. Second, Mr. P. Blair, Trentham. Third, Mr. Thos. Mayes, 75, Alexandra Road, Kettering. Mr. Blair had in his second prize stand several notable flowers of new or very rare varieties, principal amongst which were Vivand Morel, very fine; Lillian B. Bird, a most chaste and refined flower, which must become popular; Mrs. J. Thompson, a large and deep back row flower, somewhat similar in form and colour to Belle Paule, but larger, and more deeply coloured; Centenary, a very striking flower, incurved Japanese, with long and broad waxy-looking petals of a pale lemon yellow, shaded darker; Sugarloaf, a deep incurved Japanese, shaped somewhat like a sugarloaf, very distinct, colour inside of petals red, outside pale yellow, striped with gold yellow; Mrs. J. S. Fogg, a golden yellow incurved Japanese, moderate size; and Wm. Lane, a flower similar in form and character to Madame Baco, of an orange buff colour. In the same exhibitor's stand of twenty-four incurved vars. was a remarkable bloom of a new variety named Madame Darrien, bronzy buff or orange bronze in colour, and resembling in size and shape a fine bloom of Princess of Wales. The Judges formed a very high opinion of this flower, as being likely to prove a most valuable acquisition.

In class 3, open, six blooms incurved and six blooms Japanese, Mr. H. Dunkley, gardener to S. Symington, Esq., Brooklands, Market Harborough, was placed first; Mr. W. Bolton, gardener to Major O'Neal, Ratcliffe Hall, second; and Mr. Hickling third.

Class 8 was an important one, being for twenty-four blooms distinct, twelve incurved and twelve Japanese, open to gentlemen's gardeners and amateurs residing within the county of Leicester, and in which the Leicester tradesmen's cup, value £5, was offered. The winner was the Rev. J. Bird, Walton Rectory, Mr. Dunkley being second, and Mr. W. Bolton third. The varieties in the first prize stand were—*Incurved*: Empress of India, Alfred Salter, Golden Empress, Queen of England, Miss A. Haggas, Jeanne d'Arc, Prince Alfred, Lord Alcester, Barbara, Mrs. Coleman, Princess of Wales, and John Salter. *Japanese*: Etoile de Lyon, E. Molyneux, Avalanche, Madame C. Audiguier, Mons. Bernard, Condor, Thunberg, Fair Maid of Guernsey, Stanstead White, Sunflower, Middle. Lacroix, and Criterion. For twelve blooms, six incurved and six Japanese, Mr. Dunkley was first, with Mr. Read second, and Mr. Bolton third. For twelve blooms incurved, amateurs only, Mr. Whait was first, Mr. C. Day second, and Mr. Read third. In a corresponding class for twelve Japanese Mr. Read was placed first, Mr. Day second, and Mr. T. W. Bell (the popular Hon. Sec.) third.

The remaining classes were of minor importance, the principal prize-takers being Mr. A. E. Jayes, Mr. J. Whait, Mr. Yeomans, Mr. C. Day, Mr. H. Bell, and Mr. T. W. Bell.

The exhibits not for competition were somewhat numerous. A fine bank of decorative plants came from Mr. G. Barry, gardener to — Snow Esq.; also many fine decorative plants from the Hon. Sec. A splendid lot of more than 100 dishes of Apples came from Mr. G. Bunyard, Maidstone. There was an exhibit of forty-eight varieties of Chrysanthemums, including many new kinds, from Messrs. W. Clibran & Sons, twelve blooms of Louis Boehmer, and made up flowers such as an anchor, a basket, a bouquet, ladies' sprays, coat-hole flowers, &c., came from W. K. Woodcock, Barkley Road Nurseries, Syston, Leicester. Too much praise cannot be given to the Hon. Sec., Mr. T. W. Bell, for carrying out his part of the work of organising and completing the arrangements so satisfactorily.

#### SHEFFIELD, HALLAMSHIRE AND WEST RIDING.

NOVEMBER 13TH AND 14TH.

THE Show this season, which was held in the Corn Exchange, Sheffield, was quite equal in point of merit to those of preceding years. In the two most important classes for cut flowers—viz., those for twenty-four incurved varieties and twenty-four Japanese, the entries were not so numerous as last year, there being six competitors in each class, as against seven in incurved and eleven in Japanese in the previous season, but the twelve sets of twenty-four each this year shown formed a very fine table of flowers, the quality being throughout good, and the competition exceedingly close.

The first prize for twenty-four Japanese was won by Mr. Vaughan, gardener to T. Brocklebank, Esq., Liverpool, who had large solid flowers of White Empress (2), Emily Dale (2), Queen of England (2), Lord Alcester (2), John Salter, Golden Empress, Prince Alfred, Miss Haggas, Lord Wolseley, Beauty (2), Violet Tomlin, Mrs. Heale, Princess of

Wales, Jardin des Plantes, Lady Dorothy, Jeanne d'Arc, Mr. Bunn, and Barbara. Mr. R. Parker, Impney Hall Gardens, was second; Mr. A. Coombes, Himley Hall Gardens, Dudley, third; and Mr. P. Blair, Trentham Gardens, Stoke-on-Trent, fourth. In the corresponding class for twenty-four Japanese, Mr. R. Parker was successful in obtaining the first prize, his varieties being:—Back row: Vivand Morel (very fine), Boule d'Or, Etoile de Lyon, E. Molyneux, Sunflower, Stanstead White, Baronne de Prailly, and Florence Davis (fine). Middle row: Meg Merrilies, J. Délaux, Golden Dragon, Avalanche, Gloire de Rocher, Madame C. Audiguier, R. Brocklebank, and Mrs. F. Jameson. Front row: Thunberg, Sarah Owen, Madame Jno. Laing, Triomphe de la rue des Châlets, W. H. Lincoln (fine), Puritan, Middle. Maria Hoste, and Mrs. A. H. Neve. The second prize went to Mr. A. Coombes, who had a very good stand, especially fine being Mrs. Jameson, Etoile de Lyon, Stanstead White, Japonais, and Alberic Lunden. Mr. C. Osborne, gardener to H. T. Robinson, Esq., Liverpool, was third; and Mr. P. Blair fourth.

In the classes for twelve incurved varieties, open, and twelve Japanese, open, there was good competition, Mr. R. Parker obtaining the first prize in each. His twelve incurved consisted of Golden Empress, White Empress, Lord Wolseley, Lord Alcester, Mrs. Coleman, Violet Tomlin, Queen of England, John Doughty, Princess of Wales, Miss Haggas, Princess of Teck, and Mrs. Heale. His twelve Japanese were Florence Davis (fine), Thunberg, Louis Boehmer, Etoile de Lyon, Avalanche, Ralph Brocklebank, W. H. Lincoln, Gloire de Rocher, Vivand Morel, Sunflower, and Triomphe de la rue des Châlets. For the twelve incurved, Mr. C. Osborne was second; and Mr. W. Welton, Grimsby, third. For twelve Japanese, T. Vaughan was second, and T. Hargreaves third.

The classes provided for groups arranged for effect were numerous and the competition keen. In that for a group in a space not exceeding 64 square feet the first prize was taken by Mr. W. Redmill, gardener to J. G. Lowood, Esq., with a beautiful group, equal to the best we have seen this season. The plants were very dwarf, with large fine foliage and flowers, the latter being very bright and fresh. The arrangement was excellent. The second prize group was shown by an amateur, Mr. H. Greaves, and was very commendable. Third Mr. E. Pidsley, gardener to Mrs. H. Wilson, Westbrook. For six Chrysanthemums, trained specimens, Mr. E. Pidsley was first with neat well-trained bushes 2 feet to 2 feet 6 inches over. For the three each incurved and Japanese trained specimens, Mr. C. Scott, gardener to J. Colley, Esq., was first, and for three trained Pompons Mr. Pidsley was again first.

A class for a group of miscellaneous plants, arranged for effect in a space of 64 feet, brought two of the best groups of the kind we have seen this autumn, and which were greatly admired. Mr. E. Pidsley was placed first and Mr. W. Collier, gardener to J. Eaton, Esq., second. Miscellaneous groups by amateurs were both numerous and good. Mr. G. Walker was first, J. A. Roberts second, R. Gascoigne third, and J. W. Jarvis fourth. British Ferns also, which are invariably shown well at Sheffield, were this year quite equal to former years. For a group Mr. J. Eadon was first, Mr. J. G. Newsham second, and Mr. W. Smith third. For six pots Mr. J. Eadon was first, Mr. W. Smith second, and Mr. J. G. Newsham third. There were other classes for Ferns and Selaginellas.

Cut flowers in the district and amateurs' classes, also in the cottagers' class, were shown in immense numbers, and in quality almost equalling those in the open class. Great strides in this respect have been made by the amateurs and cottagers during the last several years. In the district class for twelve incurved large flowers, Mr. S. Gilbey was first, Mr. C. Scott second, and Mr. Redmill third.

For twelve Japanese, Mr. C. Scott was first, Mr. J. H. Clements second, and Mr. W. Redmill third. For a hand bouquet of Chrysanthemums—first, Mr. F. Stocks; second, Mr. E. Pidsley.

For six Chrysanthemums incurved, distinct, cottagers' class many competed, and the prizes, eight in number, were won as follows:—First, B. Glossop; second, R. Smith; third, D. Lynn; fourth, J. Beighton; fifth, W. H. Hinchliffe; sixth, W. J. Carnall; seventh, W. Fenwick; eighth, A. Jones.

Six Japanese—First, T. Mallinson; second, R. Smith; third, W. Powell; fourth, W. H. Hinchliffe; fifth, D. Lygo; sixth, W. Fenwick; seventh, W. H. Milnes; eighth, J. Beighton.

Many more classes besides those above recorded were provided, but want of space prevents us giving details. Messrs. Fisher, Son, and Sibray, Messrs. Crossland & Sons, Mr. S. W. Seagrave, Mr. H. Slaney, and Mr. W. Artindale all exhibited groups of plants not for competition, the three first named being each very fine banks of decorative plants. That of Mr. Seagrave contained a splendid specimen of *Asplenium nidus* 4 feet across. Mr. Nelson of Catcliffe Nurseries, near Rotherham, showed a grand collection of about 100 dishes of Apples, splendid in quality, and very bright in appearance considering the black and smokey district in which they had been grown.

There was a large attendance during the afternoon of the first day, and the Show will undoubtedly prove a financial success, equalling, if not exceeding, that of last year. The Society is now very strong, and appears likely to go on increasing in strength.

WE have reports of several other shows that arrived late, and which it is not possible to insert this week. They were sent as soon as the writers could prepare them, and we cordially thank all our friends for their ready and appreciated co-operation.





## FRUIT FORCING.

**PEACHES AND NECTARINES.**—*Earliest Forced House.*—The trees must now be started to ripen the fruit in May, when the varieties consist of Hale's Early, Stirling Castle, Royal George, and Crimson Galande Peaches, with Lord Napier, Elruge, and Dryden Nectarines. The very early varieties, Alexander, Waterloo, and Early Rivers Peaches, with Advance Nectarine, need not be started until the new year to ripen at the time named. The trees should be thoroughly examined for brown aphids, and if there be the least trace of the pest the affected parts should be brushed over the same way as the growths with tobacco water, and the house thoroughly fumigated on two consecutive evenings. If the lights have been off, the border will have been thoroughly moistened down to the drainage, but there must be no mistake about this, for it is important that the trees have sufficient water at the roots; therefore if any doubt exists as to the moisture of the soil give a thorough supply slightly in advance of the temperature of the house. Weakly trees will be benefited by an application of liquid manure. Fire heat need only be employed at night to exclude frost, and by day to insure a temperature of 50°. Commence ventilating at 50°, and close the house at that temperature, ventilating fully without lowering the heat below 50° in the daytime. Syringe the trees in the morning and early afternoon of fine days until the buds begin to show colour, but then (and on dull days prior thereto) discontinue the syringing, yet maintain a suitable moisture in the atmosphere by damping the paths, borders, and other available surfaces on bright mornings and fine afternoons, admitting a little air constantly at the top of the house. Aim at bringing the trees on gradually to secure well developed blossoms, strong in the stamens with anthers laden with perfect pollen and the pistils stout, well advanced above the ovary, and perfect for fertilisation. These, however, will be perfect or imperfect, as they were formed in embryo in the previous season; but they can be enfeebled by bringing them on too rapidly, and made thin in the petals, weak in stamens, and slender in pistil, with ill-developed ovary, by not affording time for their perfect development.

*Houses Started at the New Year.*—Trees started early in the year for affording fruit at the end of May or early in June, the trees being the older forcing varieties, must now be kept as cool as possible. This is best effected by keeping the roof lights off the house until the time of starting. The severest weather does not injure the wood or buds, and the trees are insured perfect rest, so far as it is practicable in our climate. The lights, however, should be replaced about a fortnight in advance of starting the house, and they must be cleansed, repaired, and, if necessary, painted. The woodwork of the house must be washed with soapy water, and the walls washed with hot lime. Pruning will have been attended to, which is a light affair where proper attention has been given to disbudding, retaining growth only essential for extension and next year's crops, and cutting out, after the fruit is gathered, the useless wood. The trees, however, must be examined to remove wood not required and that having been overlooked during growth. Brown scale is sometimes troublesome, and it is impatient of extremes. Syringing with water at a temperature of 140° to 160° frees the branches of the pest, but the water must not be used excessively, it suffices to thoroughly reach every part with the hot water. Frost also has a very decisive effect on brown scale, and trees exposed in the rest season are seldom affected with it, but it is often introduced from plant houses by persons in charge of ventilation. Trees under fixed roofs may be cleansed of scale by washing them with a solution of softsoap, 4 ozs. to a gallon of water, using a stiffish brush, taking care not to dislocate the buds. Secure the trees to the trellis, allowing plenty of space in the ties for the swelling of the branches. Remove any loose inert surface soil, supplying fresh loam not more than a couple of inches thick on the roots, and to which has been added a quart of bonemeal to every bushel, and double that quantity of wood ashes, the whole well incorporated, or 4 ozs. of the following mixture may be applied as a surface dressing per square yard, steamed bonemeal 7 lbs., kainit 3 lbs., mixed. Superphosphate may be used instead of steamed bonemeal, and nitrate of potash instead of kainit, but 2 ozs. only of the mixture must be applied before starting the trees, and a similar dressing when the fruit is about the size of marbles. Mulching with short manure should be deferred until the trees are somewhat in growth. Houses with fixed roof lights should be kept as cool as possible, ventilating to the fullest extent except when severe frost prevails.

*Houses for Starting in February.*—The trees started early in February ripen the fruit late in June or early in July, and will now require similar treatment to that advised for those in the house to be started in the new year. The roof lights are very much better removed, but it is a common practice to use houses of this kind for plants requiring protection from frost, especially Chrysanthemums. It is not a good practice, for the Peach trees are deprived of that rest so essential to success, and it often excites the trees prematurely, being then followed by a check, as is usually caused when the Chrysanthemums are over by throwing the house open, inducing the buds to fall. It is also a bad system to leave houses and trees unattended after the leaves fall until the absolute necessity

arises for starting the trees. The trees are never handled so safely as when the wood contains least sap, which is as soon as the leaves have fallen, and the delay is taken advantage of by red spider, thrips, and other insect pests to find safe retreats. The house, therefore, should be thoroughly cleansed, the trees pruned, readjusted to the trellis, and every needful operation performed, so that a start can be confidently made when the time arrives.

*Houses Started in March.*—The trees in these structures and closed early in March, will ripen their fruit in July if brought forward by artificial heat, but where warmth is only given when the trees are in blossom, and to secure the safety of the young fruit from frost, the fruit will not ripen until August or September if kept cool. The house may be a Peach case or glass-covered wall, with sufficient hot-water piping to exclude frost, afford a genial warmth when the trees are in blossom, accelerating the ripening as may be necessary, and ripening the wood in cold districts. The trees are now leafless where they have been subjected to artificial heat to ripen the fruit in August, and should undergo the operation advised for those in the early house. The roof lights should be removed, the hot-water pipes emptied, leaving the lights off until the blossoms show colour, unless it is desired to start the trees before. If the lights are fixed, the ventilators should be thrown open to the fullest extent except when frost prevails.

*Latest Houses.*—Late Peaches are quite as valuable as early ones, considering that they are had at much less cost, for all that is necessary for late houses is a gentle warmth in spring and in autumn, and not always heat at those times. The fruits are noble at dessert, and when well done good in quality. Make no attempt to remove the leaves until they part readily from the trees by shaking the trellis. Cut out all the wood that has borne fruit and all superfluous growths. Do not allow the soil to become very dry, but if necessary give water to moisten the soil down to the drainage. Keep the house cool by free ventilation, clearing away the leaves as they fall. Trees that grow too luxuriantly should be root pruned and lifted whilst the leaves are upon the trees; but the wood being unripe, they must not be lifted until the leaves have for the most part fallen, or the unripe wood will shrivel and die. If the wood does not ripen well, turn on the heat by day with moderate ventilation, and turn it off in the afternoon, so as to have the pipes cool before night, and then open all the ventilators, unless frost prevails, when ventilate according to circumstance, for a sudden collapse of the foliage is detrimental to the trees' health. When the wood does not ripen up to the points of the shoots a trench may be formed at some distance from the stem, and the roots be cut, which will check the tendency to growth and induce ripening. After remaining open ten days or a fortnight the trenches may be closed, making the soil firm, and giving a good watering.

*Wall Cases or Unheated Houses.*—In some localities Peaches and Nectarines do not succeed against walls, and they are covered with glass, under which the trees afford more satisfactory crops. The walls should have south aspects in the northern parts of the kingdom; in the south late Peaches and Nectarines ripen well in September and October in structures facing west. They are not, however, always satisfactory. Sometimes the border is at fault and the trees make late growth, not ripening the wood well. Where that occurs the trees should be lifted and the roots laid in fresh compost nearer the surface. This must be done carefully and not too soon, the leaves having for the most part fallen. If judiciously performed next year's crop will not be jeopardised, but the blossoms will set well, stone certainly, and good fruit 'e ha' by good management. Too severe root-pruning must not be practised. If the drainage is not good it must be rectified, and the soil being unsuitable it should be put right by removing a part and adding fresh. Patching bad borders is not good practice, and it is often more profitable to make new ones. The border should have 3 or 4-inch drains, with proper fall and outlet to carry off superfluous water, and 1 foot of drainage over the drains formed of brickbats, rubble, &c., roughest at bottom and about the size of road mettle at top, with a 3-inches layer of older mortar rubbish over the drainage. Two feet depth of soil is sufficient, making the border 2½ feet deep in the first instance to allow for settling. The top 3 inches of a pasture where the soil is a rather strong calcareous loam is most suitable, and if interspersed with pieces of limestone and flint it could not possibly be improved upon by any admixture. If light add a fourth of clay marl, dried and pounded, and one-sixth of old mortar rubbish, or weathered chalk if deficient in lime, incorporating all well together, and placing in the border rather firmly. The border need not be wider than 4½ feet in the first instance for young trees, and all are accommodated in a border 1 foot wider than the extent of the roots, adding to it as the roots extend. A narrow border is superior to a wide one, only due regard is had to watering and feeding, with judicious mulching. If new trees are to be put in select those just coming into bearing—say two or three years trained to walls, and lifted in the preceding year to moving. Carefully lifted and planted they will bear fruit the season following planting, and not being overcropped will not be materially hindered in extension. Introducing new trees and the lifting and replanting Peach and Nectarine trees should be effected as soon as practicable, as upon that depends success in the following year. By a judicious selection of varieties fruit of first-class quality may be had in a Peach case from the beginning of July until early October. Peaches: Alexander, Hale's Early, Dagmar, Crimson Galande, Goshawk, Alexandra Noblesse, Dymond, Belle Beaue, Barrington, Princess of Wales, Sea Eagle, and Golden Eagle. Nectarines: Advance, Lord Napier, Dryden, Rivers' White, Pine Apple, and Victoria. Those varieties are good and come into use successively as named.



## THE BEE-KEEPER.

WE have received notice that the article which appeared on page 211 of the *Journal of Horticulture* for September 3rd, 1891, under the heading of "Punic Bees, and Those who Know Nothing About Them," and signed "A Hallamshire Bee-keeper," charges the editors of the *British Bee Journal and Record*, Messrs. Cowan and Carr, while purporting, in answer to an inquiry, to give all the information in their power about the so-called Punic bees, deliberately suppressed facts within their knowledge, and thus gave a false account of matters of interest to the readers of their journal. That the article also insinuates that Messrs. Cowan and Carr have some personal and unworthy motive for concealing facts which it is plainly stated they must have known. There was no mention of the Punic bees in the *Record* of June, 1890, nor has there been any allusion to them either editorially or by any of its correspondents. There is also no statement in the *Record* for June, 1890, that Mr. Carr had a Punic stock in his possession, and he has never written anything about Punic bees.

It is suggested that the appearance of the article in question might be due to an oversight, and not to any intention to injure anyone. That is certainly the case, for it is far from our desire to make reflections on the reputation of those for whom we have never entertained feelings other than those of true respect, and we now desire to express our regret that the article referred to appeared, and to withdraw all the charges and insinuations therein contained.

### APIARIAN NOTES.

#### THE WEATHER.

ON the 11th inst. our barometer sank in two hours from 29° to 28°, indicating a storm, which we entirely escaped, the bees carrying a good deal of pollen on that and the subsequent day.

#### A VISIT TO CARLUKE.

I paid a visit to some of the oldest bee-keepers of that district lately, and as some of these old bee-keepers were those the late Mr. Pettigrew was wont to speak of as getting large yields of honey from their big straw hives. It was interesting to me to learn from them that they did not entirely agree with Mr. P.'s teachings. Their success, they said, depended more upon their management than of wood *v.* straw hives. Pettigrew advocated the wide hive, but my informers told me distinctly that their success was entirely due to deep but narrow hives, *à la* Stewarton; and that in a cold season it was vain to expect a big yield of honey from wide hives, and it was only from what some sarcastically termed "water stoups" that surplus could be expected in unfavourable seasons.

#### INTOXICATED BEES.

While reading the interesting notes on hardy flowers at pages 401-2 by Mr. S. Arnott, they brought to memory his promise of last year to investigate the cause of bees becoming torpid when working upon *Sedum Fabaria* or *S. spectabile*. Owing to the unfavourable state of the weather, and the influence it has upon some flowers more than others, in preventing them being in a fit state to induce bees to work upon them, I have been unable to carry out my projected experiments. Although the plants flowered well this year, they were not much visited by bees in the past autumn. *Sedum ibericum* during summer was as usual very attractive to them. On one occasion I observed a few bees alight upon the large purple heads so pretty at that season. I had only a few steps to take to reach the plants, but although a few seconds only had elapsed, two of about a dozen of the bees at work were in a torpid or intoxicated state. A shower of rain put an end to what I had hoped to be a discovery—that the flowers, in addition to the secretion of

honey, also distil something of an intoxicating nature. Although most of the bees seemed to be unaffected, the two in question were instantly affected, which I thought from the effects of sipping a sort of ether, which sometimes stands in little globules on the top of the petals. I held the two bees in my hand for thirty minutes before they recovered from their torpor and was able to fly. I hope Mr. Arnott will give us the benefit of his observations.

#### WINTER WORK.

Now that the winter is upon us with its long evenings, these can be devoted to thought, study, and work: there is no room for idleness in any calling whatever. In the bee world past experience points out clearly the improvements necessary to make things go smoothly and as we desire. Go over every empty hive, repairing every defect, and add any improvement suggested to you, until you have reached your ideal or what you consider a perfect hive. Thereafter make a pattern, not a model, thinking and studying every requirement as you go along; pass nothing that is likely to be an eyesore or that which will give trouble in the future, and omit nothing that you see will be of benefit to the bees or the hive.—A LANARKSHIRE BEE-KEEPER.



\* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**A Yellow Chrysanthemum, Florence Percy (E. A. W.).**—It is difficult to say whether your plant is really a sport from the variety you name, but it has something of the same character. Increase your stock, grow the plants well, and it would be easy to determine next season if it is what you suppose.

**Chrysanthemum Mrs. Alpheus Hardy (Martin Lilsbury).**—We thank you for the bloom which you have been so good as to send for the decoration of our sanctum. The bloom was fresh and neat, though, as an incentive to you, we may say that several have been exhibited this year of at least twice the size, and in other respects as perfect in form and florets.

**Chrysanthemum Etoile de Lyon and Stands for Blooms (R. M.).**—According to the National Society's catalogue, *Etoile de Lyon* was sent out by Boucharlat in 1888, and it would no doubt reach England soon after it was announced. The size of stands for twelve blooms as adopted by the above-named Society is as follows:—Length, 24 inches; width, 18 inches; height at back, 6 inches; in front, 18 inches; the holes to be 6 inches apart from centre to centre. No limit is, however, imposed upon stands for Japanese blooms.

**Gooseberry Hedges (C. P.).**—About 9 inches asunder is a suitable distance for planting. We cannot add any other reason for the circumstance of birds not taking the buds of Gooseberries, grown as represented last week, as freely as from bushes. You are quite right in your assumption that the word "leads" was a misprint, and ought to have been "buds." We have known Gooseberry bushes practically ruined by sparrows pecking out the buds while those on hedges or cordons in the same garden were seldom interfered with by the mischievous birds.

**Boiler and Piping for Tomato Houses (R. C.).**—A 3-feet terminal saddle boiler will heat the quantity of 4-inch piping necessary for the Tomato houses. To warm the houses properly you will need two rows of 4-inch pipes on both sides of the houses if spans, or four rows of piping in front or near if lean-to's. It is a great mistake to restrict the quantity and size of piping, as the pipes require to be kept hot when few and small to secure the requisite temperature, which is not good for the plants nor their owner, as there is a great waste in fuel. What is wanted is heat in the pipes and reserved there, 4-inch pipes being more economical than 3-inch.

**Maturing Ripe Cucumbers for Seed (E. C.).**—The proper plan is to lay the ripe Cucumbers on a shelf in a heated structure till the





## HOLIDAY NOTES IN SWITZERLAND.

WHEN the opportunity was afforded late in the past summer for a journey to Switzerland it was gladly seized, and a portion of the annual holiday tour, which has for some years been devoted to gardening explorations in various directions, was at once allotted for the purpose of what appeared likely to prove the most novel and delightful yet enjoyed. As soon as the needful preparations were completed the journey was commenced, and the route chosen for the first stage, London to Paris, was *via* New-haven and Dieppe, not only on the ground of economy, but because another glimpse might be obtained of the charming scenery of Normandy, to which reference was made on a previous occasion. Unfortunately, time did not permit the acceptance of an invitation to spend a few days among the orchards in this part of France, though undoubtedly such an inspection would have yielded considerable interest. However, it is a pleasure deferred, and Paris offered so much of horticultural importance that thither we sped without undue delay.

Some of the leading features of Paris that concern "Journal" readers have been noted several times, and it is not my intention to refer to them here now, but when the pages are less crowded than at present a few ideas that were gained on the last visit may form the subject of a chapter or two.

Probably the majority of tourists from England proceed to Geneva from Paris by the night service, but I elected to journey by a morning train, as I especially wished to see something of the land cultivation in the large part of France through which the line passes by way of Dijon. Judging gardening or farming from the windows of an express train is not, perhaps, the most satisfactory method of arriving at accurate conclusions, but it is surprising how much may be learnt even in this way with a little knowledge of what to look for. After passing the forest of Fontainebleau the open country is entered, and then for some hundreds of miles, until, in fact, the Vine growing districts are reached, the system of "petite culture" can be studied to the heart's content. On both sides of the line can be seen a succession of narrow strips of land, varying slightly in size, but rarely assuming the extent of our British fields, devoted to different crops, Maize and Sugar Beet preponderating largely, and striking a stranger from our side of the Channel more particularly. They were indeed the only crops that appeared to be flourishing; most of the others, and especially the grain crops, seemed to be suffering from soil exhaustion, due no doubt to continuous cropping and few or scanty manurial applications. As regards the actual working of the land and the general cleanliness there was little cause for dissatisfaction, much less than I had been led to expect, for I have seen thousands of acres of farm land in the south and west of England in far worse condition. Much labour is expended upon the land, but the results do not seem to be in due proportion, at least that is the only judgment I could form from a hurried inspection in the way described; but the characters were so well marked, and repeated with little variation over so large a tract of country, that the conclusion was inevitable.

Dijon was at last reached, and we looked in vain at the station or near it for any representative of the celebrated Rose so popular at home, and which bears the name of this ancient town. A good chance has been missed there to produce an effect that

would have been most interesting to the numerous travellers who pass through Dijon to other parts of the Continent, and if some of our horticultural station masters had been in charge there—and I know several who are devoted rosarians—it would not be difficult to imagine the good old "Gloire" in possession of every available space for the display of its floral charms. The horticultural taste which imparts many attractions to country stations on some of the leading lines in Britain is singularly deficient in such portions of France as I have had the chance to visit.

To enable us to reach Geneva, however, and to say something about the special object of my visit within the limits allowable this week, we must hurry on, as we did after leaving Dijon, into a delightfully picturesque country with Vine-clad hills in every direction, and even the precipitous sides of the elevations of mountainous proportions were similarly covered to a great height, and surprise was excited as to how the Vines were reached for cultivation or gathering the fruit. The Vines themselves presented a pleasing effect in their abundant foliage, but little could be seen of the Grapes, which were not fully ripe or were nearly concealed beneath the leaves, and the vineyard at Castle Coch, near Cardiff, which I had seen a short time before, was much more luxuriant and attractive, possibly more so than the Grape growers of this district would appreciate. Large quantities of wine are produced in the country around Macon, which gives its name to a kind of mild claret or Burgundy, extensively used in Switzerland, and really a pleasant beverage when of good quality.

After running along a considerable distance in view of a long range of hills on the left, the line turns off rather abruptly, gradually ascends, and passes through a series of deep valleys and cuttings with towering hills and precipitous declivities, rocky watercourses, and all the characters of the Derbyshire scenery as witnessed from the Midland line through the Peak district, but on a larger and grander scale. About half an hour of this most pleasureable part of the journey and the "shades of evening" began to fall so fast that all was soon buried in darkness, and it was an agreeable conclusion to a twelve-hours journey when the train drew up at the Geneva platform and a friend was found waiting to accord a true British welcome.

It would be impossible in one communication to relate all the experiences gained during my short sojourn in Switzerland, and in the present chapter a general survey only can be attempted, the details will be filled in another time when opportunity permits. First let me say that, surprising as it may seem, all my anticipations were fully realised, and for a somewhat sanguine temperament this is saying a good deal. In truth, much was found that surpassed all that I had imagined, not only in the glorious Alpine scenery and the marvellous lakes about which we have heard and read so much that something uncommon was naturally expected, but because it was my good fortune to witness some gardening triumphs which, with our insular prejudices strong about us, we do not look for on the Continent.

Pregny, the Swiss residence of the Baron and Baroness Adolphe de Rothschild, is situated a few miles from Geneva, at an elevation of several hundreds of feet above the great lake, of which, together with the Alps and that embodiment of majestic sublimity, Mont Blanc, it commands a superb prospect. Admirably, indeed, has the site been chosen for the scenery it affords, but as is usually the case with exposed and elevated gardens, many difficulties have in consequence had to be overcome. Gardening on the Continent, too, is very different from what it is in England, the fierce heat of summer and the long dry periods with the keener cold of winter have to be taken into consideration, and very serious obstacles do such conditions present to success. It is, however, difficult to imagine what more could have been accomplished at Pregny; the garden, park, and grounds constitute what a good authority has aptly termed "*une œuvre complète*," distinguished by excellent taste in design, and by no mean skill in execution.



Upon the highest portion of the park, or "*campagne*," as it is termed, stands the Pavillon de Pregny, a stately and substantial mansion; from this the ground slopes somewhat in an easterly direction towards the Lake of Geneva, and from the terrace a magnificent view is obtained of Mont Blanc. Probably so fine a prospect could not be secured anywhere else. The weather was exceptionally clear and favourable at the time of my visit, and never while memory endures shall I forget the first glimpse I had of those wonderful snowclad summits, glistening under a brilliant summer's sun, the clear blue sky above, and the still richer blue lake in the foreground. It was a scene upon which poets might exhaust their powers, and still convey a poor idea of the reality. Certainly, therefore, it would be useless for me to attempt so fruitless a task. One aspect of the great mountain must, however, be noticed, and that is at evening when the sun is declining, for it presents a solemnity and grandeur that could scarcely be surpassed. The first change is shown in a beautiful rosy flush overspreading the snowy slopes, that so exactly resemble the profile of a gigantic face upturned to the sky; then this slowly disappears, and is succeeded by a weird and awful tint, comparable only to the pallor of death, which fades into the grey dusk as the shadows creep up the sides until darkness hides all from view.

The slopes of Pregny have been very carefully planted. No labour has been spared to produce a garden thoroughly English in its prevailing characters, and to provide what should be essential in a true garden, both variety and repose, with no jarring formalities to destroy the effect, and every care to conceal the art so requisite in forming an establishment of this kind. Many trees are developing into handsome specimens, and there are plenty of shaded, cool, refreshing retreats provided by trees and shrubberies, and one of these is represented in the woodcut (fig. 85, page 455). To the general design of the park the Baroness Rothschild has given close attention for several years, as it is her favourite summer residence, and her taste is manifest in every portion of the estate. Even in what seems a small matter like the following, it is astonishing how much is added to the pleasing effect of the garden generally:—The edges of the lawns, instead of being flat where they adjoin the walks, are slightly raised and rounded, so that at a distance when looking across the lawn the walk is not visible; much care is also taken in managing the curves of the walks with the same object—namely, the avoidance of long stretches being exposed at any point.

Mention has been made of the lawns, and these alone are marvellous, for out of England it is doubtful if such close, green, fresh, and beautiful expanses of turf could be seen. As they have been entirely formed from seed it can be imagined what care and trouble have been required to bring them to their present state of perfection in such a situation. Many good examples of successful lawn formation from seed have been recorded at various times, but this is the most remarkable that has ever come under my notice.

Advantage has been taken of a steep and in places a nearly perpendicular deep slope to form a rockery of imposing extent, and thoroughly natural in design and planting. Huge boulders are covered with climbing, drooping, and creeping plants of many kinds, the lower portions are devoted to aquatics, and every stone is being covered with some appropriate occupant. Most noticeable in all parts was the graceful *Desmodium penduliflorum*, which succeeds capitally, and might be seen in England much more frequently. A spray is depicted in fig. 86, page 459, showing the drooping character of the shoots, and a large specimen laden with its bright purplish crimson flowers has a charming effect.

Many important features at Pregny remain to be described, including the large collection of Orchids and other plants, and the extensive fruit houses and the fruit garden at Saconnex, and the exquisite villa lakeside resort, the Port Gitana at Bellevue, but I have encroached so far upon the space at my disposal that

reference to these departments must be deferred. It only remains to add that the gardens are under the charge of Mr. Andrew Methven, who has afforded ample proof of his ability as a practical Superintendent, such, indeed, as might have been expected from the good work he had previously performed in the north of England. I must also take advantage of this opportunity to record my thanks to M. Kirsch, the Agent of the estate, to M. Offerdinger, the Secretary, and to M. Duchosol, the Assistant Secretary, for many courteous attentions and kind services rendered during my visit to Geneva.—LEWIS CASTLE.

## HARDY CLIMBING PLANTS FOR NORTHERN DISTRICTS.

(Continued from page 425.)

### VIRGINIAN CREEPERS.

FROM the showy *Clematis* let us pass to the useful foliage plants, the Virginian Creepers or *Ampelopsis*. Of these splendid climbers two only are generally grown, *Ampelopsis hederacea* and *A. Veitchi*. Both are deciduous; but before they finally cast their leaves for the winter a beautiful transformation of the foliage is effected from rich dark green through intermediate shades to fiery crimson. The common *A. hederacea* is an universally useful European climber, and flourishes on any soil or aspect, not only in any district in England or Scotland, but in Germany, France, and Russia, and even as far south as Italy it is said to be a popular climber. In ordinary soil it will grow from 30 to 40 feet in height, and in a richer soil, combined with a suitable aspect and support, it will reach a height of 60 feet. For a town garden there is no climber more suitable except Ivy, and it ought to be more frequently planted.

When in luxuriant condition, and at the time of the full development of its annual growth, the young shoots of this variety have a remarkably graceful appearance as they hang loose and free upon a dense background of green foliage. The upper shoots, when the plant is wanted to extend and cover more space, should, at this period I am speaking of (which is during the month of August), be carefully fastened to the wall or trellis.

The leaves begin to change colour in September, and during the early part of October the tints are very pleasing; but on south and south-west aspects the colouring is richer than on less sunny positions. Sometimes the leaves change colour and fall very quickly, this happening with more frequency when the roots are growing in dry or poor soil. There is no objection to seeing this Virginian Creeper planted and trained on a wall of Ivy, which hides its bare stems in winter and forms a background for its glowing colours in autumn. It is also useful as a summer covering for rough banks, old walls, unsightly outbuildings, bare tree trunks, and other objects.

An even more valuable and pleasing *Ampelopsis* for a prominent wall than the preceding is the pretty little miniature Virginian Creeper, *A. tricuspidata*, perhaps better known as *A. Veitchi*. It is a smaller leaved variety, with slenderer growth, but equally as hardy and free growing. The colouring, too, of the foliage in autumn is altogether richer in the variety of tints, and the leaves are retained on the plants much longer. The growths of this variety cling to a wall, preferably a smooth one, with more than the tenacity of Ivy, appearing to be pasted on the surface, so close and fast do they adhere. There is no need for nailing or fastening of any kind, except when just first planted. It should always have a south aspect when possible, as its unique growth warrants a good position and the best attention. Rather lighter soil, well and fairly deeply prepared, should be provided for it when planting.

There is a more robust variety of *A. Veitchi* now being sent out, which has all the good qualities of the type even more pronounced, and is known under the name of *Ampelopsis Veitchi robusta*. There is also an evergreen variety, namely *A. sempervirens*, having pretty dark green leaves, and is useful on account of its evergreen character.

### IVIES.

Passing now to another climbing plant of an evergreen character we find in the various sorts of Ivies a wide variety of useful plants, most of which are adapted for climbing. The common Irish Ivy (*Hedera canariensis*) is well known and popular for all purposes. *H. algeriensis*, *H. Rægnieriana*, the Giant Ivy, and *H. dentata*, a lila ge-leaved varieties, also including *H. amurensis*, said to be the



largest leaved variety of any in cultivation. The small leaved Ivies include *H. chrysocarpa*, *H. lucida*, *H. donerailensis*, the leaves of which assume a purple bronze in winter; and *H. caenwoodiana*, a quick grower, and one of the best of the small varieties.

The variegated kinds are very suitable for low walls, such as those below projecting bay windows and other low positions, and include the following—*H. canariensis aurea maculata*, the golden variety of Irish Ivy; *H. marginata elegantissima*, with silvery margin; *H. argentea elegans*, *H. marginata grandis*, and Silver Queen. These are a selection of the numerous varieties of Ivies, and may be useful as a guide, but the best plan in purchasing plants is to see them at the nursery. There are few more interesting sights in a garden than a good wall of the various varieties of Ivy. The contrast in growth, the difference in vigour of the plants, the various tints of colour, and the differing shapes of the leaves are an interesting and gratifying study, and apart from all these in a long wall of Ivies, all planted at the same time, what diversity of general growth is apparent. The rapid growers will soon reach the top of the wall, others will grow in a pyramidal or pointed fashion, reaching various heights, or exhibit some other peculiar form of growth, making charming contrasts one with the other; and then when winter comes how pleasant and cheerful looks the Ivy wall. The dreariness of everything around brings it into bold relief.

For general purposes, however, and all kinds of positions, the chief among all Ivies is the Irish Ivy, which has, and probably now does, clothe more old castles, church towers, cottage walls, and roofs and gable ends, than any climbing plant in existence. If you want a climbing or a creeping plant for the worst position in the garden, to cover an old tree stump, to hide a wall, to clothe a dark damp patch of earth or bank, or to form an undergrowth or top-growth anywhere plant this Ivy, but plant it carefully if the position is unsuitable for starting quick growth, and give attention until established. If simply inserted in hard dry ground it may fail to grow, especially if left to itself and no moisture given. Ivy is easily propagated in moist ground, autumn being a suitable time to insert cuttings. They may be inserted where they are to remain, or on a piece of ground from which they can be readily removed for planting.

Good moist deep fertile soil is the best for the Ivy as a climber, but for creeping purposes, after once established, moisture is of more importance than depth of soil, and this is the reason that Ivy does well as an undergrowth. Some assert that Ivy causes dampness to buildings against which it is grown, but I have no hesitation in saying it is a false idea, arising probably from the fact of Ivy being planted in positions that are naturally damp, and from which, moisture-loving plant as it is, it was unable to absorb all the superabundant moisture within its reach. Instead of being a damp-promoting plant it is quite the opposite, its leaves being suspended on the plants in such a manner as to throw off the rain that falls upon them, thus keeping the building it covers quite dry. Therefore those who plant Ivy to obviate dampness, may rest assured it will have the desired effect, if, as indicated above, the position is not naturally too damp.

The small kinds and the choice forms of Ivy are chiefly of slower growth, though some of them grow quickly enough, and they require a better prepared soil, light rather than heavy, when planting, and also the use of established plants from pots is preferable for these kinds than it is with the common and larger.

There is no hard and fast time for planting Ivy. They generally succeed planted at any period of the year, especially those from pots. Those dug from the open ground are better if planted in autumn or spring. At two periods of the year the Ivy is specially beautiful and enjoyable. One is at midsummer after the new growth is made following upon severe cutting-in in April, which it is perhaps needless to say Ivy on walls annually requires. At this period the leaves have just attained to their full development, and are of a rich light green, with a texture as soft as velvet, and a shining surface like polished stone. The other period is in mid-winter, during mild pleasant days in December, when the litter and untidiness of autumn are gone. Then the dark leathery foliage is pleasant to look upon amid the dreariness of wintry scenes.

In an interview that the late Hans Christian Andersen, a popular writer twenty years ago, had with the present Poet Laureate, Tennyson, he remarked to the poet that Ivy seemed to be his favourite plant, to which Tennyson replied, "To tell the truth it is. Ivy needs no nursing. It knows neither cold nor heat. It is the plant of immortality."—E. D. S.

(To be continued.)



CYPRIPEDIUM INSIGNE SANDERÆ.

ONE of the most useful Orchids in cultivation is *Cypripedium insigne*, and at different times some fine varieties have been imported, which have taken a prominent place in collections where Orchids are especially grown for use. Probably the most distinct and beautiful yet obtained is that named above, for which the Royal Horticultural Society's Orchid Committee awarded Baron Schröder a first-class certificate on November 10th last. The flower is distinguished by its uniform soft, yet clear and bright shade of yellow with a greenish tint, except the dorsal sepal, the upper part of which is pure white with the exception of a few dots in the centre.

The following is the history of the plant:—About three years ago Messrs. Sander of St. Albans flowered this variety amongst an importation of *Cypripedium insigne*. They divided the plant into two; one was sold by Messrs. Protheroe & Morris for 70 guineas, the other half passed into the possession of Mr. R. H. Measures, The Woodlands, Streatham, who in turn divided his plant into four parts, which has been distributed as follows:—One found its home with Mr. R. J. Measures, Camberwell; another crossed the Atlantic to be placed in the finest of Transatlantic collections, that of Mr. F. L. Ames, near Boston; the third remains at The Woodlands; while the fourth has been procured by Messrs. Sander for the sum of £250. This is one of

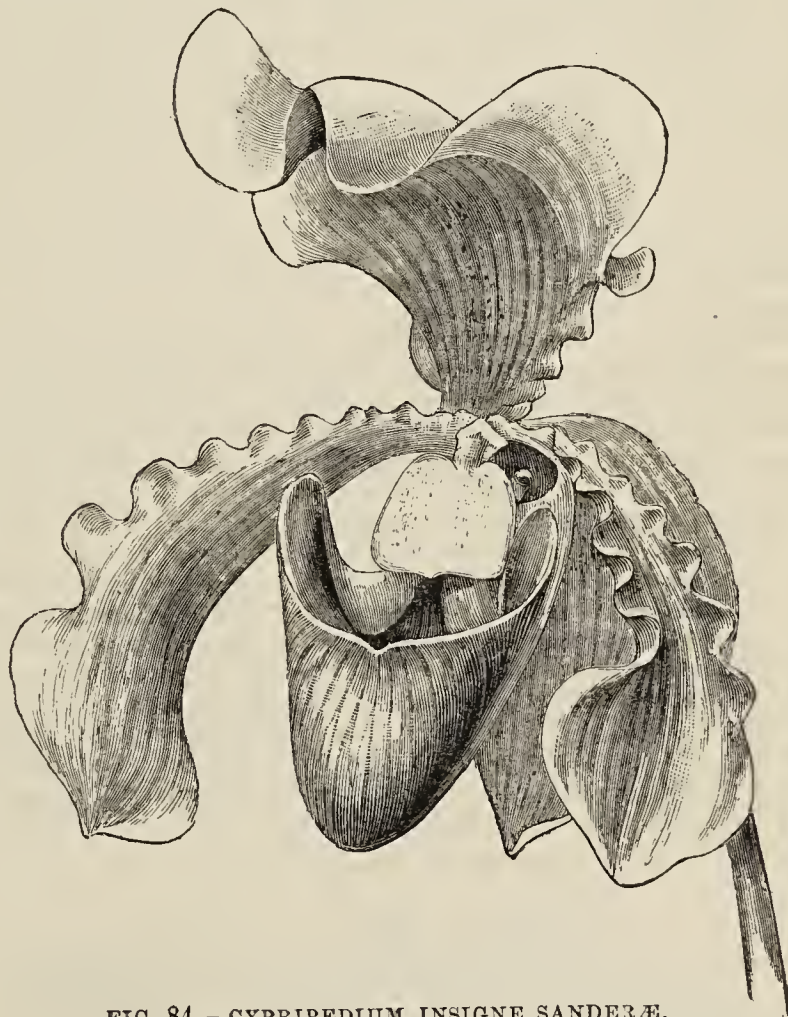


FIG. 84.—CYPRIPEDIUM INSIGNE SANDERÆ.

the most remarkable instances of increased varietal value, for ordinary forms of *Cypripedium insigne* can be secured for a few shillings.—C.

## NOTES ON ASPARAGUS.

### MAKING ASPARAGUS BEDS.

It is both unwise and unsafe to transplant Asparagus before the spring, the best time as a rule being when the first shoots are several inches long. If this period of activity is long anticipated the chances are the greater portion of the roots, most of which are unavoidably broken in lifting, will perish, and the top growth be either very weakly or else fail altogether in consequence of this injury. There is, however, no good reason why the beds should



not be prepared now or any time during the winter for planting next spring, this being especially desirable where the subsoil is of a heavy clayey nature. Asparagus revels in a fairly rich and deep root run, but the less clay there is about the better, excessive moisture being most detrimental. It pays well, therefore, to remove a good depth of clay subsoil and to substitute a variety of other substances, soluble or otherwise. Raised beds are certainly the best for heavy land, and they may be either 5 feet wide and hold three rows of plants, or 3 feet wide for two rows of plants, alleys 2 feet wide being allowed between them. Commence by staking out the first bed, and then throw out all the best of the top soil right and left.

Next dig and wheel away a good spit or more of the clay or clayey subsoil, place a 3 inch pipe drain through the middle, cover this and the bottom of the bed with brick ends, coarse mortar rubbish, clinkers, or stones, a little finer material being spread over this. Continue by wheeling in all the road trimmings, decaying garden refuse, charred clay, or even ballast, and any other slowly decaying material that can be looked up or which is an eyesore above ground, and well mix the lot with about half of the garden soil first thrown out, the lightest or best portion of the latter to be reserved for surfacing the bed, and with this should be mixed as much sand, sea sand being preferred if procurable, fine mortar rubbish, the remains from a garden "smother" or slow fire, leaf soil, old potting material, decayed manure, fresh loam, and such like. All being evenly and thoroughly mixed together and laid up roughly till planting or sowing time arrives, a capital root run will be provided and a strong start being made. Beds thus well made can be enriched from the surface at will, and would produce extra good Asparagus for a quarter of century or longer.

#### FORCING ASPARAGUS.

Nothing is more easily forced, and no extra early vegetable gives more pleasure to those whose good fortune it is to get it. Unfortunately early forcing necessitates the breaking up of established beds, unless, indeed, the requisite number of strong roots are specially prepared for the purpose. The usual practice is to break up the oldest bed every winter, strong roots being thus obtained, and to meet the demand for open air produce another new bed is formed every spring. This naturally entails a considerable amount of work, but the labour is not wholly expended on the Asparagus, especially seeing that when once the ground is well prepared and kept manured for that important crop it is in splendid condition for any vegetables, plants, bushes, or fruit trees that may succeed it.

Hard forcing is most undesirable, but if the start is made at once abundance of good Asparagus ought to be available at Christmas. Heated pits, deep enough to hold a hotbed 3 feet in depth of well sweetened stable manure and leaves is the best position for forcing Asparagus, ordinary garden frames on well made hotbeds also answering well. Directly it is found there is no danger of overheating cover the beds with a layer of rich moist soil, and on this closely pack the carefully lifted roots, covering with about 3 inches more of the same kind of soil, somewhat fine this time. One well filled light would be enough for a small establishment, but two or three are none too many where extra large dishes are required. A bottom heat of from 60° to 65° is quite high enough, ought not to be exceeded, in fact, while the top heat may well be 5° lower. Heavily mat over or cover the lights with litter in preference to turning on much fire heat, the unheated pits and frames especially requiring this attention, more light being admitted when top growth is strong.—W. I.



#### STRAY NOTES.

THE Rose analysis so ably set forth by "E. M." (on pp. 319, 320) cannot fail to be interesting to Rose lovers and exhibitors, and we ought all to be grateful to him for the pains he has taken in the matter. Statistics are very useful, but it has been said they may be made to prove anything; and somehow I cannot help fancying that the Rose elections we used to have seemed to produce more trustworthy results, though it is difficult to see how this could be. It should be remembered that not only did we want (as "E. M." says) an early season in 1891 to make things square, but a hot dry time was even more needed—for instance, Maric Rady in H.P.'s, and Madame Hippolyte Jamain and Madame Margottin in Teas, have really not had a chance of late years. The earliest H.P.'s with me are Violet Bowyer

(generally the first), Lady Mary Fitzwilliam, and Mrs. Baker; the latest, Alfred Colomb, Camille Bernardin, Pierre Notting, Earl of Dufferin, Emile Hausberg, and A. K. Williams. I do not know how it is the latter is so late with me, but certainly the best and strongest shoots on cutbacks generally do not flower till all shows are over. Of those that have "disappeared," I think John Stuart Mill will certainly be heard of again in a good season as nearly a first-class Rose, though I had not one worth looking at this year, and Lord Macaulay I find a good doer, seldom failing, though not first-class. But none of the Teas which have gone from the list are really now worth growing, and I am surprised that Devoniensis holds its place so well. Madame Hippolyte Jamain, La Boule d'Or, and Madame Margottin will probably, however (as I have said) make up lost ground when a dry season comes, and the same may be said of the H.P.'s Reynolds Hole, Monsieur Noman, Marie Rady, and Star of Waltham, &c.

"E. M." has naturally not gone entirely by the order of merit as shown in his analysis in selecting varieties as "the cream of the Rose world, few of which are difficult to grow;" and but little fault can be found with his selection of H.P.'s, though Prince C. de Rohan is lucky to get a place, and Her Majesty, Etienne Levet, Lady Mary Fitzwilliam, and Xavier Olibo (or for the matter of that any Rose) are surely not more difficult to grow than Horace Vernet. But in his list of Teas and Noisettes it is strange indeed to find such sorts as Catherine Mermet, Comtesse de Nadaillac, The Bride, Niphetos, Souvenir d'Elise, Maréchal Niel, and Madame de Watteville omitted from a selection of the "cream of the Rose world," none of them with me being more difficult to grow than Innocente Pirola. But it is indeed an awkward task to make out a list of certain number of best Roses, suitable for all and sundry, though it is one I am often set to do.

Horace Vernet, H.P., gives me more trouble to grow than any other Rose, and I sadly fear that the difficulty is increasing, and that the constitution of this grandest of show varieties is getting even worse than it was. Here is a Rose, which, with a strong shoot and uninjured bud, is pretty sure to come good, and, being good, would find A. K. Williams its only rival perhaps to the title of King of Show H.P.'s; yet how seldom is it shown, 15.3 being its figure, while that of Madame Gabriel Luizet is 38.3; and how seldom comparatively do we find it taking the medal as best H.P. I find it by no means always doing well even as a maiden. I have seen a long row of them looking very bad, and this would not be the fault of the stocks, as with me it refuses to take or grow at all except upon the best and strongest of stocks. I wish some means could be found of instilling new vigour into this splendid sort, for a strong growing, hardy and healthy Horace Vernet would be as great a boon to exhibitors as almost any grand new Rose.

My standard stocks, got by myself last February, when the worst of the winter was over, have done very well, 2 or 3 per cent. only having failed. They were cut to a maximum height of 2 feet, and budded with Teas. I am surprised to see that it is a common practice to take off all laterals that are not wanted for budding. It is true this very much facilitates this operation; but I am accustomed to cut off nothing, not even strong shoots, like suckers coming from the bottom of the stem; for though it may not be desirable to encourage suckers which you cannot effectually extirpate later on, yet my idea is that all growth strengthens and increases the roots, and is as good for the next season as so much manure. It may be true that a standard stock can be too strong for some of the weaker Teas, but at all events a stock can always be weakened in as many minutes as it would take weeks to strengthen it, for it is a good deal easier to destroy roots than to make them.

The result is a veritable jungle, and untying the buds was not child's play, for they were utterly hidden under a complete hedge of Briar growth. Instead of now cutting away all this tangle, I am going to lace the long shoots in or clip it like a hedge, and my idea is that I shall then get a natural thorny platform or hedge on which it will be easy to lay mats or Fir boughs for the protection of the inserted Tea buds during the winter. The use of collodion will hardly be needed here, I imagine; but I hope to experiment with it elsewhere.

The raisers of the two English gold medal Roses of last year offered this summer twelve buds for propagation at the same usual price as a pot plant, viz. 10s. 6d. I think this was decidedly a good bargain for amateurs. The expense and risk of the carriage of a pot plant are avoided; one very seldom gets a decent bloom from such a plant; the plant itself rarely does any good afterwards; and, except with very strong growers, if you get twelve good buds for propagation from one such you are extra lucky. From a dozen such buds thus purchased and put into strong Briar cuttings, I have got this year no less than six which have "run out." I like to see H.P.'s run out, one is pretty sure of them then, and I have never lost any of such shoots by frost. I am speaking of course of those buds which grow at once of their own accord, not those which are forced to it by the cutting back of the stock and consequent weakening of the roots. Why do some buds run out more than others? I suppose it is that in those cases the act of budding and the subsequent union have been most perfect, for it is by no means always on the strongest stocks.

The question of the date of the Metropolitan Show is a very important one. There is no written law, I believe, that it should be the first Saturday in July, and, as that will be July 2nd in 1892, and July 1st in 1893, it is well worth the consideration of those interested whether a more suitable date could not be found. The Crystal Palace Show is the show of the year, and, therefore, it seems to me it should naturally be as near as possible to the very centre of the season, taking the average situations of the members of the N.R.S. into consideration.



If we take four weeks for the season, the last week in June and the first three in July would probably be the nearest representative of the time, and I think the list of fixtures on the back of the N.R.S.'s schedule will bear me out in this. This would make July 7th about the centre of the season, and if it must be Saturday, the one nearest to this date would be the proper time. It is true that by this arrangement the date might be as late as the 10th of the month, but I should still contend that this would on an average be nearer the centre of the season than the 3rd; and the metropolitan and provincial exhibitions might thus be brought pretty close together. But I see no harm in that worthy of comparison with the effect of having the principal Rose Show when many have got hardly any Roses out.

Another argument on this matter is that the early date of the Crystal Palace Show is, to my mind, at the root of all this controversy in the Journal and a contemporary about large amateur growers showing in small classes. I think I shall not be wrong in taking it that almost all the small growers who are aggrieved in this matter are in southern or metropolitan districts, which are three or four days ahead as an average of those north or east. The consequence is that the small growers are ready at an early date, when the large must show in small classes or not at all; and it should be noted that, as regards ability to show in large classes, the date had better be too late than too early; we may still get some blooms, though not so good, of the earlier sorts in the latter part of the season, whereas we cannot possibly show in the large classes if our Roses are not yet out. I hope this matter may be taken up, and elicit a good body of opinion one way or the other.—W. R. RAILLEM.



#### SEMI-EARLY OR OCTOBER FLOWERING CHRYSANTHEMUMS. 1891.

WHEN we come to consider the changes in these this season we find that, although they are not so numerous as those that flower before the end of September, still there are quite sufficient good new ones in this class to effect a material alteration in the stocks to be cultivated by those who are selecting the newest and best varieties.

M. Henri Devred will perhaps turn out one of the very best of the season. It grows about 3 feet high, and bears flowers 5 inches across. It has good foliage. It is a kind of incurved Japanese, a most profuse flowerer of a very beautiful pale terra-cotta tint, probably the most elegant and charming of any that colour. It is a powerful plant, having the strength to develop every bud it forms into a good flower. To me it is one of the best new plants of the season, and it will most likely prove a friend to both exhibitors and florists, being very acceptable, as its colour is fashionable.

M. Maxime de la Rocheterie grows about 3 feet 6 inches high, with flowers 3 inches across. It is a red Japanese, so red and bright as to be as near scarlet as any one I remember, and more that colour than the Comtesse Foucher de Carcil. It comes just enough later than that to form a succession. It is a profuse bloomer and a real good sort without a bud taken off. It slightly resembles Léon Collin when flowered under glass.

M. Jacob is a reflexed crimson, 4 feet high, with flowers rather over 3 inches across; it slightly resembles Cullingfordi, but is about a month earlier, and is rather earlier than Wm. Holmes, flowering at the beginning of October; and with Souvenir de M. Menier, which is rather later and darker than Wm. Holmes, we have three good successional crimsons for October. It does well with all the buds left on.

Secrétaire Alfred Bleu is a most striking Japanese with broad thin Sunflower-like florets, which are of a pale yellow. The habit is rather slender.

Alfred de Montebello is a very much reflexed mauve Japanese, with blooms  $3\frac{1}{2}$  inches across. The plant is just over 3 feet high; very full foliage. It flowers at the beginning of October. M. Albert Galy is a Japanese variety, 2 feet 6 inches high; very good stout plant, bearing flowers 3 to 4 inches across, orange bronze in colour. It flowers at the end of October. Madame E. Bellan, a beautiful light mauve Japanese, with straight pointed rather broad petals.

M. Jules Paquet (certificated).—This is a white Pompon under glass, with reflexed flowers  $2\frac{1}{2}$  inches across. It grows a little over 2 feet high, has profuse foliage, and is of a very stout habit.

Bouquet de Dame, a white Japanese about 4 feet high. This is truly an October flower, through its habit of perfecting its first bud into a fine flower in September 4 to 5 inches across without a bud taken off, being then very much less in height, about 3 feet, than afterwards, when it branches out and covers itself with flowers, for it has the power to bring out all the buds it forms, making a fine decorative plant, and is a large producer of bloom fit for cutting. It is really a useful addition to the decorative sorts; besides, it will be very valuable to future October shows, where large white flowers are required to win prizes. To show how the trade appreciate it I may mention that I have already seen it in the window of one of the first shops in London. It has had a first-class certificate.

M. B. Bahuant is a new incurved variety of first-rate quality for

exhibition purposes, but does not seem likely to serve well where it is not disbudded. Its form is globular, or rather deeper than that, for when well grown it is a deep flower with the petals large and wide, of a kind of pink, shaded with grey outside. There is no doubt this will figure at future October shows. It is not a very tall plant, about 3 to 4 feet. It has had a first-class certificate.

The following are probably future October show flowers:—Mrs. E. Beckett, a very fine white Japanese, certificated when shown by Mr. Beckett; it was raised by Mr. N. Davis of Camberwell, London. Edwin Beckett, a superb yellow Japanese with the habit of Avalanche, also certificated when shown by Mr. Beckett; it was raised by Mr. N. Davis, and is another very fine show flower.

Kate Wells is a reflexed Pompon of a remarkably bright scarlet crimson colour, about the brightest ever seen, and to add to its striking appearance every floret is imbricated and tipped with the brightest gold. M. Vauvel is a fine bright pinkish mauve Japanese; Mad. Eulalie Morel is a pink-and-yellow middle Japanese, very good; Georges Devred is a most beautiful lemon-yellow Japanese; Mad. Henri Galice is a Japanese of quite a new shade of rich bronzy orange yellow; R. du Mensil de Montehauveau varies from deep magenta to purple, Japanese.

Of last season's new sorts that we have become better acquainted with the first is Mrs. Hicks Arnold. It is an excellent plant, and as a flower producer has very few equals. Its profusion of bloom is immense, being of that stout character that it stands wind and rain to a wonderful degree. All this it will do without a bud taken off, producing great branches of flowers.

Louis Boehmer, I think, may be fairly classed among the October flowers, for there will be a difficulty in keeping it back for the November shows in the south of England, many plants being fully out here by the end of October. No one need fear that there is any difficulty in growing this plant like there has been with Mrs. Alpheus Hardy, it is quite different from that. It grows and does well. Some plants put in as cuttings on April 25th were in bloom before October was out. This, as many know by now, is a kind of incurved Japanese about 4 feet high, with flowers 6 to 7 inches across, when disbudded a kind of magenta colour with hairs like projecting thorns on the backs of the florets as they incurve, giving quite a different appearance from any other Chrysanthemum except Mrs. Alpheus Hardy. I have little doubt we shall have more of this type, perhaps this will sport to white in time. I hear already of a yellow one very bright, but do not know if it is a sport or a seedling. I may mention, in conclusion, that P. Radaelli has kept its character well this adverse season, and has covered itself with beautiful white flowers this October.—W. PIERCY.

#### DWARF JAPANESE CHRYSANTHEMUMS.

I GIVE a list below of the best Japanese Chrysanthemums of dwarf habit suitable for producing exhibition blooms or for decoration. They are mostly sturdy and robust growers, and require little or no support in sticks except in their early growth.

Achievement (E.).—Seedling from Madame Desgranges, creamy white, vigorous habit, 3 to 4 feet.

Autumn Queen (E.).—Rich yellow, another seedling from Madame Desgranges, 3 to 4 feet.

Mrs. F. A. Spaulding (A.).—Bright nankeen yellow, splendid habit, 3 feet.

Carrie Denny (A.).—Incurving, orange yellow, very distinct, 3 to 4 feet.

William Lane (E.).—Bright cinnamon shaded rose, vigorous grower, and fine habit, 3 to 4 feet.

Mrs. G. C. Schwabe (E.).—Delicate rose shaded salmon, gracefully falling over, very durable, 3 to 4 feet.

Louis Boehmer (A.).—Incurved, strong grower and good habit, back of petals hairy, like Mrs. A. Hardy, 3 feet.

Mrs. W. Baker (A.).—Yellow, very pretty, fine for decoration, 3 feet.

W. H. Lincoln (A.).—Yellow, robust habit, producing large stiff florets and extra fine flowers, 3 feet.

Beauty of Castlewood (A.).—The best Japanese ever sent from America or any other country, rich crimson, incurved, very large, requires good cultivation, 3 feet.

Miss Anna Hartzhorn (A.).—Opening blush showing to white, the best of its colour and form, 3 feet.

Miss Esmeralda (A.).—Similar to Beauty of Castlewood, but a better grower, 3 feet.

Sunset (A.).—Semi-double, very long spreading petals and foliage, and rich in colour, yellow and red, 3 feet.

We Wa (A.).—A dwarf Mrs. C. W. Wheeler, habit of Beauty of Castlewood, a fine American variety, should be better known, 3 feet.

Mr. Robert Owen (F.).—Seedling from Avalanche, white flamed rose, 3 to 4 feet.

Avalanche (E.).—A well-known variety of fine habit, 3 to 4 feet.

Criterion (E.).—Another well-known kind, 3 to 4 feet.

Enchanteresse (F.).—Rose and violet, drooping florets, very dwarf, 3 feet.

Etoile de Lyon.—Very large, deep rich rose and lilac, 4 feet.

Feu de Bengale (F.).—Orange and red tipped yellow, 3 to 4 feet.

Madame Desgranges (F.).—White, very early and free, 3 feet.

Golden Madame Desgranges (or G. Wermig) (E.).—Light yellow, 3 feet.

Jessica (A.).—Fine white, 3 to 4 feet.

L'Adorable (F.).—Creamy yellow, edged violet rose, fine dwarf habit and vigorous, 3 feet.



Lucrèce (A.).—Pure white, a splendid variety of dwarf habit, producing large flowers, 3 feet.

Maret Postula (F.).—Violet rose, rather early, 3 feet.

M. Freeman (F.).—Rose, very pretty form, incurved, 3 to 4 feet.

M. W. Holmes (F.).—Rich crimson and gold, splendid habit and constitution, 3 to 4 feet.

Mrs. Burrell (E.).—Primrose form of Madame Desgranges, 3 feet, early.

Mrs. Hawkins (E.).—Bright yellow variety of Madame Desgranges, 3 feet.

Mr. Hugh Graham (A.).—Pink and white, large full flower, rather late, 3 feet.

President Hyde (A.).—Bright yellow, reflexed, one of the best, 3 to 4 feet.

Princess Blanche (F.).—Creamy white, very dwarf, 2 to 3 feet, late.

Thomas Stephenson (E.).—An improved Criterion, 3 to 4 feet.

Thomas Cartledge (A.).—A very distinct Japanese with twisted florets, 3 feet.

Trompe du Nord (F.).—Crimson maroon, fine old variety, 3 feet.

Val d'Andorre (F.).—Chestnut red, very fine habit, and large flower, 3 to 4 feet.

The initials following the names mean F, French; A, American; E, English.—R. OWEN.

#### JAPANESE CHRYSANTHEMUMS FOR CUTTING DOWN.

Now we are thinking of Chrysanthemums, would some grower kindly give a list of twenty-four Japanese which will best lend themselves to the cutting down process? the varieties being for grouping only, not for cut blooms, and for shows about November 12th to 17th.—NORTH COTSWOLD.

### CHRYSANTHEMUM SHOWS.

#### CHESHUNT.

THE annual Exhibition of Chrysanthemums at Cheshunt is invariably a pleasing gathering, especially for the Judges, who are not overburdened with arduous duties, and thanks to the attention of the considerate members of the Committee, the subsequent proceedings are even more satisfactory. St. Mary's Hall, in which the Show is held, is not very spacious, and therefore would not permit a great extension of the display, but several improvements may be introduced with advantage. For example, more groups and plants are wanted, and if the prizes could be slightly increased in these classes it might have a stimulating effect upon local growers. The cut blooms are satisfactory, so also are the hardy fruits and the vegetables, but a class for a stand of Chrysanthemum blooms, or something to show their decorative value, would be a charming addition to the Show, and add considerably to its interest. A class for table plants also would be useful, as these are excellent for the centres of the tables between the stands of cut blooms.

In general quality this year's Show was very satisfactory generally, and there has evidently been a steady advance in this respect for some time, proving that the Society's work is producing an effect. The chief class was that for twenty-four cut blooms, twelve incurved, and the same number of Japanese, with not more than two of any variety, and here Mr. Cox, gardener to J. Trotter, Esq., won first honours, showing of Japanese Madame Baco (2), Avalanche (2), Val d'Andorre (2), Boule d'Or, Beauty of Castlewood (2), M. Bernard, J. Herrin, and E. Molyneux; of incurved, Lord Alcester (2), Empress of India (2), Queen of England (2), Alfred Salter, Golden Empress (2), Princess of Wales, Mrs. S. Coleman, and Violet Tomlin. Mr. Walter, gardener to E. Clapham, Esq., was second, his Japanese being very fresh and even. The best twelve Japanese came from Mr. Collins, gardener to S. Warren, Esq., who had fine blooms of Etoile de Lyon, Madame Baco, Ada Spaulding, Condor, Beauty of Castlewood, Stanstead Surprise, E. Molyneux, J. Délaux, Sunflower, Avalanche, Mrs. Wheeler, and E. A. Carrière. Mr. Cox took a similar position for twelve incurved, staging good examples of Queen of England, Violet Tomlin, J. Salter, Lord Wolseley, Empress of India, Nil Desperandum, Golden Empress, Robert Cannell, Mrs. S. Coleman, Lord Alcester, Princess of Wales, and Jardin des Plantes; Mr. Collins being second in this class. Messrs. Turk and Horner had the best six Japanese. Anemones were capitally shown by Messrs. Walters and Horner; Pompons by Messrs. Searles and Horner, reflexed by Messrs. Turk and Walters; while in a mixed class for twelve blooms, four each of Japanese, incurved, and Anemones, Mr. Turk was first with very fine blooms, followed by Mr. Walters.

For groups of Chrysanthemums and miscellaneous plants arranged for effect Mr. Rowdon, gardener to J. Walters, Esq., won the leading prizes. An interesting class in this section was for a collection of Pompons not more than 2 feet high in pots not exceeding 6 inches in diameter. Mr. Bettesworth, gardener to R. Ewing, Esq., won first with plants not more than a foot high bearing abundance of flowers and most useful for decorative purposes. They are raised from cuttings inserted in late spring or early summer three or four in a pot, and bushy little specimens are thus obtained. Mr. Walters was second with similar plants. Primulas were good from Messrs. Walters and Turk and G. Warren, Esq.

Apples were capitally shown by Messrs. Bettesworth, Jones, Turk, Rowdon, and Ambrose; Grapes coming from Mr. Collins, who was first for a large bunch and berries of Waltham Cross Seedling; and Mr. G. Warren was second for Black Hamburg. The non-competing exhibits included five stands of very handsome Chrysanthemum blooms, chiefly Japanese, a most tasteful basket of Chrysanthemums from Mrs. Horner, and some elegant Bamboos from Messrs. Paul & Son.

The Judges were hospitably entertained at luncheon by Mr. George

Paul, who subsequently conducted them round the surprising establishment of Mr. Edward Rochford, where the cultivation of Grapes and plants for market is carried out on a marvellously extensive scale. An inspection of the interesting "Old Nurseries" at Cheshunt concluded the business of a most agreeable day.

#### TEDDINGTON.

FOR eight years the Chrysanthemum Show at Teddington has been conducted with much energy, a considerable share of success, and most satisfactory results as regards improvement in the culture of the favourite autumn flower. Several influential amateurs in the district have taken a prominent part in advancing the interests of the Society, and the shows are invariably distinguished by a most commendable freshness and equality of merit. Cut blooms of course always constitute the special feature, and are largely represented; but specimen plants, groups, fruit and vegetables form important departments, the competition is sure of these classes being extremely keen. The Committee and the Hon. Sec., Mr. D. Anderson, were well rewarded for their efforts this year in a large and excellent display, one of the best in all real good quality that the Society has yet held. Especial credit is due to Messrs. Furze, Douet, and other gentlemen for the eager part they take in the work of promoting the Show, and they are certainly performing a most useful service to the district.

Noting the cut blooms first, the chief class was that for twenty-four cut blooms, twelve incurved and twelve Japanese, distinct, in which a challenge cup, value 5 guineas, was offered as the first prize (to go to the subscriber) and £1 10s. for the gardener. The conditions being that the winner should hold the cup until the next exhibition, when it would be returned to the Society; but if the same exhibitor should win the cup twice, not necessarily in consecutive years, it becomes his absolute property. This is the third that has been offered at Teddington on similar terms. The first was offered in 1884, and was finally won in 1886 by Mr. Furze. The competition for the second commenced in the following year, and was completed in 1889, Lieut.-Gen. Vials being the winner. The third has now been won twice in succession by Mr. Furze, and therefore becomes his property. It is worthy of remark that the gardener at The Rosclands has amply proved his skill as a Chrysanthemum grower, for he has been successful in this competition no less than five times—a good record.

The varieties in Mr. Furze's premier collection of substantial handsome blooms were as follows—Incurved: Empress of India, Emily Dale, Violet Tomlin, Golden Empress, John Salter, Princess Teck, Queen of England, Miss Haggas, Lady Dorothy, Alfred Salter, Lord Alcester, and Hero of Stoke Newington. The Japanese were very strong, and comprised the following—Etoile de Lyon, Gloire de Rocher, Louis Boehmer, E. Molyneux, Condor, Gloriosum, M. Bernard, Madame C. Audiguier, Mrs. F. Jameson, Stanstead White, Sunflower, and Madame Baco. The second prize went to General Vials, C.B., Teddington House (gardener, Mr. Higginson), for good blooms, and the third to Mrs. Holberton, The Cedars, Teddington (gardener, Mr. W. Cave).

With twenty-four incurved, distinct, Mr. E. Coombs was first for excellent blooms of Empress of India, Violet Tomlin, Lady Dorothy, Golden Empress, Mrs. Heale, Empress Eugénie, John Salter, Miss Haggas, Perle Précieuse, Queen of England, Princess of Wales, Mrs. Shipman, John Doughty, Jeanne d'Arc, Baron Beust, Lord Alcester, Mrs. Coleman, Princess Beatrice, Alfred Salter, Princess Teck, Barbara, Emily Dale, Lady Hardinge, and Hero of Stoke Newington. Mr. Coombs also had the best twenty-four Japanese, but he was closely followed by Mr. W. Davies, Weir Bank Gardens, and Mr. Cave. For twelve incurved the prizes went to Messrs. Slade, Higginson, and Davies in the order named. In other smaller classes Messrs. Coombs, Slade, and Davies were the successful competitors, while for Anemones and Pompons, which were excellently shown, A. Nagle, Esq., Bijou Cottage, Surbiton (gardener, Mr. W. A. Clark), was the most successful. Noteworthy exhibits also came from Mrs. Howard, The Grove, Teddington (gardener, Mr. Osborn); T. F. Weymott, Esq. (gardener, Mr. F. Gregory); Mrs. Cowan, Park Lodge, Kingston; W. Cunard, Esq., Orleans House (gardener, Mr. R. Mitchell); and Mr. Sallows (specimen plants).

Some very tasteful floral decorations were contributed by Miss Furze, Miss Douet, Mrs. Birmingham, and other ladies; there was also an admirable display of Apples and Pears, together with vegetables. The non-competing exhibits included a beautiful group of Orchids from Mr. Tracy of Twickenham, and a collection of fruit from Messrs. J. Peed and Sons, Roupell Park.

#### WANTAGE.

THE historic town of Wantage made a horticultural departure last week by inaugurating a Chrysanthemum Show, and having made so necessary a beginning it is to be hoped that the interest thus awakened will result in a substantial advance during the coming year. It was somewhat late in the season before the Committee and officers of the local horticultural Society determined to make an effort in the direction of promoting a Chrysanthemum Show, therefore time did not permit very extensive preparations on the part of intending exhibitors. An idea was, however, conveyed of what can be accomplished in well-grown plants, and good blooms were contributed by several amateurs. Apples and Pears were well represented, but there will no doubt be considerable extensions in these classes another season.

To impart an additional educational importance and interest to the Exhibition, arrangements were made for two lectures, one on Chrysanthemums in the afternoon, and another on Fruit Culture in the evening;



and, with a programme of music, all the attractions that should be needed were furnished. The Committee with the Hon. Secretaries, Messrs. Ormond and Adnitt, deserve much commendation for their efforts and every encouragement for the future, and it may be fairly expected that some of the many wealthy residents in the district will readily afford the necessary pecuniary assistance to ensure a continuance of the work and an extension of the Society's scope.

The Show was held in the Corn Exchange, nearly facing the handsome statue of King Alfred, which adorns the market place of that celebrated monarch's native town. The building is a convenient one for the purpose of an exhibition, and it presented a very bright appearance when the arrangements were completed. The groups and plants were arranged around near the walls, the cut flowers and fruit occupying central tables. The first class was for a group of Chrysanthemums arranged for effect, unrestricted as to space it should occupy. The premier honours were adjudged to J. Taylor, Esq., who had a most effective tastefully arranged group in which Japanese predominated, a good margin being formed of smaller plants and Ferns. Mr. C. O. Walter was second, his plants being good blooms, but the finish was not so satisfactory in front. Mr. Haines was third with a bright, fresh, but small group. The plants were not the strongest feature in the Show, but some of them had well developed blooms, and with a little experience several of the exhibitors will be well able to hold their own. The chief prizetakers were Messrs. Clark, Walter, Brooks, and Gibbons.

The cut bloom classes provided incurved and Japanese, also two for a collection of any variety. In these (both open and for amateurs) Mr. C. O. Walter was the most successful, while in other classes Miss Garraway, with Messrs. R. Pumfrey and Taylor, took the leading prizes.

For a collection of twelve dishes of Apples (six dessert and six culinary) Mr. G. Brewer was first, showing fine examples of Ribston Pippin, Cox's Orange, King of the Pippins, Fearn's Pippin, Hollandbury, Blenheim Pippin, Dumelow's Seedling, Warner's King, and others. Mr. Clark was second, his best dishes being Scarlet Pearmain, Court Pendu Plat, Cox's Orange, King of the Pippins, and Golden Noble. For six dishes of Apples Messrs. Harman, Walter, and Haines were successful, while in the class for Pears equal first prizes were awarded to E. Ormond, Esq., and Mr. R. Pumfrey for excellent fruits.

The non-competing exhibits included a handsome basket of most tastefully arranged Chrysanthemums from Mr. R. Bennett, a stand of Japanese Chrysanthemums from Mr. R. Owen, Maidenhead; a group of Ferns from Mr. T. R. Barnby, and some extremely fine Onions from Mr. Arthur Bell.

#### DISS.

UNCONVENTIONAL in all ways was the bright Exhibition of Chrysanthemums held in the quaint old town of Diss, in Norfolk, last week, and the Committee, with their distinguished horticultural Secretary, the Rev. F. Page Roberts, of Scole Rectory, had ample reason to be satisfied with the result of their efforts. It is not to be supposed that they will be content to rest on their laurels, but rather it will be a stimulus to them to still farther improve the character by their show, and this could be readily accomplished by providing some additional attraction in one class for cultivators at a distance. The Show was held in the Corn Hall, a light and convenient structure for such a purpose.

The cut blooms were very good, and the competition was close in several classes. With twenty-four Japanese, not less than twenty varieties, Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, was placed first, a position which he gained by a few points. His flowers were very fresh, bright, and even, the following being the varieties—Stanstead White, Madame Baco, Triomphe de la rue des Châlets, Sunflower, Vivand Morel, Lady Lawrence (2), A. H. Neve, Gloriosum (2), E. Molyneux, Sarah Owen, Etoile de Lyon, Madame C. Audiguier, G. Daniels, M. Bernard, Boule d'Or, Puritan, Condor, Gloire de Rocher, and Mr. H. Cannell. R. Burrell, Esq., Westley Hall, Bury St. Edmunds (gardener, Mr. Alfred Bishop), was a very close second, staging capital blooms of many varieties; the Rev. H. G. Hawkins, Beyton Rectory, was third, and an extra prize was awarded to the Rev. F. Page Roberts.

For twenty-four blooms, twelve Japanese and twelve incurved, distinct, Mr. Alfred Bishop won first honours with a creditable collection, comprising fine blooms of Japanese—Ralph Brocklebank, Duchess of Albany, Thunberg, Carew Underwood, Maiden's Blush, Belle Paule, Mr. H. Cannell, Madame Baco, Pelican, Baronne de Prailly, G. Daniels, and Mrs. Cannell; incurved: Lord Alcester, Golden J. Salter, Antonelli, Lord Wolseley, Miss M. A. Haggas, Prince Alfred, Queen of England, Princess Teck, Faust, Golden Empress, Violet Tomlin, and Barbara. Mr. Notcutt followed for the second place, and the Rev. Page Roberts was third.

With twelve Japanese the Rev. Hugh Berners, Harkstead Rectory, Ipswich (gardener Mr. G. Jordan), was first, showing fine blooms of Carew Underwood, Madame Baco, Condor, Madame J. M. Pigny, Boule d'Or, Sarah Owen, E. Molyneux, E. H. Carrière, Japonaise, Etoile de Lyon, Baronne de Prailly, and Puritan. Mr. F. T. Smith, Palgrave, was second; and Mr. Bunnington third. In other classes for cut blooms there was good competition, the chief prizes going to Messrs. Bishop, Smith, Bunnington, Bird, Notcutt, and Huggins.

The best group came from the Rev. Page Roberts, an effective arrangement, chiefly consisting of Japanese and single varieties. J. T. Frere, Esq., was second for a very tasteful group, and an extra prize was awarded to Mr. Bolton. Messrs. Smith, Frere, and Bolton were the prizetakers for specimen plants, some of which had excellent blooms.

Mr. J. Tudor Frere of Rydon Hall showed a collection of well grown

Apples, Pears, Grapes, Plums, and other fruits. Mr. Alfred Bishop also had forty-six dishes of extremely fine Apples and Pears of excellent colour, and for both these exhibits extra prizes were awarded.

#### GRIMSBY.

THE second annual Exhibition of the Grimsby and District Chrysanthemum Society was this year held in the Town Hall, and was opened by the Mayoress, Lady Bennett, with some very pleasing remarks. The capacious hall was well filled throughout, and the arrangements were carried out in the most satisfactory manner, Mr. A. Mountain, the Hon. Secretary, deserving every credit for the management of so large an exhibition.

Cut blooms formed the most important feature of the Show, some excellent blooms being staged. The principal class was that for forty-eight blooms, twenty-four to be Japanese, and the remainder incurved, in not less than eighteen varieties in either section, for which a silver cup, value 5 guineas, and £2 in money were offered. There was keen competition, and the place of honour was won by Mr. W. Welton, gardener to Mr. G. A. Carr, Waltham Grove, with the following varieties. First on the stand was a handsome bloom of Mrs. Alpheus Hardy which measured 8 inches across and 4½ inches deep. It won the special prize, and well deserved it. It was a credit to Mr. Welton to exhibit such a bloom. The following were the other blooms staged—Condor, Baronne de Prailly, Sunflower, Mrs. F. Jameson, Belle Paule, J. M. Pigny, Carew Underwood, very good; Madame C. Audiguier, Puritan, Coronet, good; Mrs. J. Wright, Val d'Andorre, Avalanche, T. Stephenson, W. Holmes, Criterion, and Comte de Germiny, all most excellent blooms. The incurved were composed of the following varieties—Golden Empress, Lord Alcester, White Empress, Lord Wolseley, Emily Dale, Barbara, Jeanne d'Arc, Violet Tomlin, Jardin des Plantes, Queen of England, Princess of Wales, Bronze Queen of England, Guernsey Nugget, Empress Eugénie, Lord Derby, Alfred Salter, Nil Desperandum, all excellent blooms, not large, but well finished. The second position was taken by Mr. G. Burrows, gardener to Sir Henry Bennett, The Westlands, after a close competition. His blooms were very good, and the principal amongst them were Etoile de Lyon, E. Molyneux, Puritan, Stanstead White, Vivand Morel, very good; Avalanche, Sunflower, Lord Alcester, M. R. Bahuant, very fine indeed; Alfred Salter, Earon Beust, Violet Tomlin, and Mrs. Heale, all neat well finished blooms. The third place was gained by Mr. W. H. Clark, gardener to Mr. G. Smith, The Elms, after a close competition, only three points dividing the second and third stands. The incurved were all good.

In Class 2 for twenty-four blooms, twelve Japanese and twelve incurved, Mr. E. Wright, gardener to David Wilson, Esq., Park House, Cottingham, was an easy first. His blooms showed very good cultivation. They were sound, deep, heavy blooms. The following were the most noteworthy:—Condor, Fair Maid of Guernsey, Puritan, Alberic Lunden (very good), Album Fimbriatum. Incurved: Prince Alfred, Lord Wolseley (the champion incurved bloom of the Show, measuring 6 inches by 3½ inches, a magnificent bloom). The second place was gained by Mr. Clark, gardener to Colonel James Reed, Westland Corner, with some fine blooms well finished, especially the incurved. The Japanese were a trifle light, but very bright. The third place was occupied by Mr. Walker, gardener to Mr. Granville Southwell, Waltham Hall. The most notable bloom was Louis Boehmer, a grand bloom, but not fully out. Its measurement was 8 inches by 3 inches.

For twelve Japanese the premier prize was gained by Mr. G. Burrows, gardener to Sir Henry Bennett. Second honours went to Mr. W. Welton. With twelve incurved in not less than nine varieties Mr. Walker was first for a stand of beautiful blooms, large, solid, well finished, and indicating the best cultivation. The reflexed classes were not very well represented, but some good blooms were shown. Anemones were well represented, especially in the first prize stand, shown by Mr. G. B. Burrows, Jeanne Marty being much admired.

In the amateurs' classes there were some fine blooms shown. Mr. A. Mountain, the Hon. Secretary, had good blooms, indeed they were equal to those in the open classes. The cottagers also showed well, the principal honours resting with Mr. Jos. Cook and Mr. C. Wilson; the last named took the special prize with a good bloom of E. Molyneux.

In the classes for groups the principal prize was a cup value 5 guineas, and £2 added, which was won by Mr. Fred. Isle, gardener to Capt. E. L. Grange, for a good group. Mr. J. Clark, Cromwell Road Nurseries, and Mr. C. Colebrooke, Royal Nurseries, were second and third with good groups. The classes for fruit were well filled, the examples being good. Mr. Mobbs, gardener to Henry Josse, Esq., took the first prize for dessert Pears with five fine fruits of Pitmaston Duchess, each fruit averaging a pound in weight. The Apples also were very good. Taking the Show all round it was a great success, considering it is only the second year. Every credit is due to the Secretary and Committee for the way in which they have worked the Show up to its present standard. Next year it will probably be a greater success than it has even been this season. It will be difficult to surpass the quality of the blooms shown.—J. DOBBS.

#### BRADFORD, NOV. 6TH AND 7TH.

THE fifth annual Show was held in the Technical College. This was the earliest fixture in the north, and in past years it has been the meeting place of some of the best growers in the Midlands, and around Liverpool considerable interest was evoked as to the quality of the flowers likely to be shown during the current year. For some unexplained



reason only two entries were made in the class for forty-eight, twenty-four Japanese and twenty-four incurved, Mr. George Burdon, Birkenhead, having an easy success with good flowers staged as follows:—Japanese, back row: Etoile de Lyon, Mdlie. Lacroix, E. Molyneux, Sunflower, Avalanche, Mrs. Jameson, Stanstead White, and E. Molyneux. Second row: Staastead Surprise, W. W. Coles, Stanstead White, Marsa, Jeanne Délaux, Belle Paule, Stanstead Surprise, and Sarah Owen. Front row: Puritan, M. Bernard, M. Marrouch, Avalanche, Madame Baco, Sunflower, Gloire de Rocher, Puritan, Sunflower, Jeanne Délaux, and Avalanche being specially fine. Incurved, back row: Queen of England, Empress of India, Emily Dale, Improved Jeanne d'Arc, Emily Dale, Improved Lord Alcester, Empress of India, and Queen of England. Second row: M. Bahuant, Jardin des Plantes, John Salter, Golden Empress of India, John Doughty, Jeanne d'Arc. Front row: Lady Hardinge, Sir S. Carey, Mr. Bunn, Princess Beatrice, Miss Haggas, Refulgens, Mr. Bunn, Prince Alfred. The second prize was taken by Mr. W. Boston, Manor Farm Nurseries, Calthorpe, Bedale.

In the local class Messrs. H. Clark, Rodley, won the Mayor's cup for twenty-four varieties, staged as follows:—Incurved: back row, Jeanne d'Arc, Queen of England, Bronze Queen, Lord Alcester; middle row, Golden Empress, Empress of India, Lord Wolseley, Nil Desperandum; front row, Miss Haggas, Violet Tomlin, Mr. Bunn, and Princess of Wales. The second prize went to Mr. T. Torrelvel, Lightcliffe; and third prize to Mr. J. Gordon, Lightcliffe. All the other classes in this section were well filled and keenly contested, making altogether a fine and attractive show, being generally considered an advance on previous years. Groups of Chrysanthemums and ornamental foliage plants were staged by Messrs. Thos. Bell, Frizinghall; Mr. Butter, Calverley; Mr. Utting, Manningham, the prizes being awarded in the order named. The second prize collection was made up of remarkable fine well-grown and valuable plants, but marred by too stiff an arrangement and a multiplicity of thick white stakes brought prominently into notice, this fault being not uncommonly committed by inexperienced exhibitors who, relying on the quality of their plants more than upon the best use which may be made of them, and having only a loose interpretation of the conditions laid down in the schedule, meet with disappointment, and in some cases meet it in bad spirit, when the Judges give effect to their convictions by adhering to those conditions. Bouquets and ladies' sprays were an interesting feature of the Show. A fine display of black Grapes was also brought together in competition for prizes offered by Messrs. Thompson of Cloufords, Mr. G. Carter, gardener to — Bottomley, Esq., taking the first place with two magnificent bunches of Gros Colman, and Mr. W. Butters was second with fine Alicante. Mr. Thos. Horsman, nurseryman, Bradford and Ilkley, showed, not for competition, an imposing group of ornamental foliage plants of high quality and in vigorous health.—T. GARNETT.

#### ECCLES, PATRICROFT, AND PENDLETON.

THE fifth annual Exhibition of Chrysanthemums was held on Friday and Saturday, the 13th and 14th inst., at the Town Hall, Eccles, and was in every respect the best ever held by the Society. The display was of a delightful character, and the groups of Chrysanthemums and miscellaneous plants were magnificent. The cut blooms were also of a superior quality and showed a great improvement. The classes numbered fifty-seven, distributed over three sections; the first being open to all England, the second to amateurs, and the third was reserved to amateurs in the district who do not at any time employ a professional gardener.

In section I the exhibits were highly meritorious, especially the groups of Chrysanthemum plants, which were most tastefully arranged. They were composed of fine plants with foliage down to the pots. In this class Mr. G. H. Leigh of Swinton (Mr. Jos. Belshaw, gardener), was awarded the first prize and silver medal of the National Chrysanthemum Society; and for twenty-four cut blooms, twelve incurved and twelve Japanese, Mr. John Walker of Stockport received the first award, together with a silver medal of the National Chrysanthemum Society. Two charming groups of miscellaneous plants were exhibited by Mrs. Thos. Agnew (Mr. W. Elkin, gardener) and Mrs. H. Winterbottom (Mr. A. Torve, gardener), for which the former was awarded the first prize.

The principal prizewinners in section I were—for plants, Mr. G. H. Leigh, Swinton; Mrs. H. Winterbottom, Pendleton; Mr. Jos. Belshaw, Swinton; Mr. H. H. Howarth, M.P.; Mr. Fritz Reiss, Mr. C. S. Chatwood, and Mr. J. G. Groves. For cut blooms—Mr. John Walker, Stockport; Mr. J. Hanning, J.P., Leyland (J. Hickman, gardener); and the Right Hon. the Earl of Lathom, Ormskirk (J. Hathaway, gardener). Much praise is also due to the exhibitors in the amateur classes, which were well filled. The premier prize, together with a silver medal from the National Chrysanthemum Society in section II, for twelve cut blooms (six incurved and six Japanese), was won by Mr. Thos. Morton of Eccles; and in section III the silver medal, together with the first prize, was awarded to Mr. James Smethurst of Winton.

The principal prizewinners in sections II and III were Mr. H. Huber, Winton; Mr. James Smethurst, Winton; Mr. Thos. Morton, Eccles; Mr. A. B. Wimpary, Eccles; Mr. J. Benj. Wroe, Patricroft; and Mr. James Royles, Swinton.

The certificates of merit from the National Chrysanthemum Society were awarded for the best cut bloom in section I to Mr. John Stanning, Leyland, for one bloom of Vivian Morel, and in the amateur sections to Mr. J. Benj. Wroe for a very good grown bloom of Avalanche.

Messrs. W. Clibran & Son, Oldfield Nurseries, Altrincham, exhibited a collection of fine cut Chrysanthemum blooms, and Messrs. Dickson

and Robinson, and Messrs. Dickson, Brown, & Tait of Manchester showed each a very fine collection of miscellaneous plants. Each of these three exhibitors were highly commended by the Judges.

#### WOKINGHAM.—NOVEMBER 18TH AND 19TH.

A VERY attractive Show was held by the Wokingham Chrysanthemum Society in the Drill Hall on the above dates, and although there was a slight falling off in some classes the competition was extra keen in others.

The leading prize for a group of Chrysanthemums arranged for effect brought some remarkably well grown plants, and Mr. Bungay, gardener to Sir W. Moorshed, Forest Lodge, Binfield, easily won the first prize. Second, Mr. Wilks, gardener to B. E. Cammell, Esq., Folly Court. Third, J. M. Wescott, Esq., Easthatch. In the class provided for a group of Chrysanthemums not disbudded Mr. Goddard, Mathew's Green, took the first place, followed by Mr. Townshend, gardener to Sir W. J. Farrar, Sandhurst Lodge.

Good flowers were shown in the cut bloom classes, and for twelve incurved varieties, distinct, Mr. Lane, gardener to Miss J. D. Smith, Kings Ride, Ascot, took first honours with clean even blooms of Lord Alcester, Lady Dorothy, Lord Wolseley, and others. Mr. Godfrey, Ribsdon, Bagshot, second; and Mr. Poppie, gardener to Sir A. K. Stepney, Bart., M.P., Woodend, Ascot, third. In the class provided for twelve Japanese, distinct, Mr. Trinder, gardener to Sir H. Mildmay, Bart., Dogmersfield Park, Winchfield, took the first prize for very fine blooms of Sunflower, Louis Boehmer, Avalanche, Mrs. E. A. Carrière, Mrs. Wheeler (which also took the special prize as the best Japanese in the Show), Etoile de Lyon, and Stanstead White. For reflexed Mr. Godfrey was first, his best blooms being of the Christine family, Cloth of Gold, and Cullingfordi. The next class was for twelve cut blooms, distinct, any varieties to be shown, with not less than 9 inches of stem above the board; Mr. Trinder was again first, his best varieties in this stand being Mrs. Wheeler, Sunflower, Mrs. Alpheus Hardy, and Louis Boehmer; Mr. Godfrey was a close second, and Mr. Lane third.

For a group of flowering and foliage plants, staged for effect, 6 feet by 4 feet, Mr. Bungay repeated his success with a tastefully arranged group. Mr. Woodgate, gardener to Colonel Harvey, Ambaran, Ascot, was second, and Mr. Townshend third. For six table plants Mr. Lane came in first, Mr. Ashman, gardener to C. T. D. Crews, Esq., Billingbear Park, second, and Mr. Woodgate third. For six Primulas Mr. Goddard was first, and Mr. Bungay second.

Apples and Pears were shown in quantity, and of good quality too. For four dishes of dessert Apples Mr. Godfrey was placed first with good Ribston Pippin, King of the Pippins, Cox's Orange Pippin, and Blenheim Orange; followed by Mr. J. House and Mr. Townshend. For four dishes of cooking Apples some wonderfully fine fruit were shown. Mr. Godfrey was again placed first, Mr. Ashman second, and Mr. Townshend third. Pears were also numerous and fine. Mr. Trinder was first with good Pitmaston Duchess, Beurré Diel, Beurré Clairgeau, and Durondeau. Second, Mr. Godfrey, third, Mr. Townshend. Grapes were poorly shown. Mr. Cooper, The Vineries, Sunninghill, was placed first, Mr. Ashman second, and Mr. Townshend third.

In the classes provided for amateurs some excellent groups were shown, the chief prizewinners being Mr. M. A. Lemaire, Peach Street, and Mr. Caiger; and for table decorations, Mrs. Goddard and Mrs. Bedford.

Special prizes for collection of vegetables were offered by Messrs. Sutton & Sons, Messrs. Sale & Sons, Wokingham; and Messrs. Daniels Bros., which brought over twenty competitors, the chief prizewinners being Messrs. Bungay, Ashman, Turner, Hawkins, and Kcep. A very fine group of well-flowered plants of Chrysanthemums, not for competition, was exhibited from The Vineries, Wokingham.

(For other Shows see page 454.)



EVENTS OF THE WEEK.—The Chrysanthemum Shows are now concluded with the exception of the National Chrysanthemum Society's early winter Exhibition, which will be held on December 9th and 10th. In the current week there is little of importance, with the exception of the National Chrysanthemum Society's annual dinner, which will take place at Anderton's Hotel, Fleet Street, E.C., on Tuesday, December 1st, at 6 for 6.30 P.M. The tickets are 3s. 6d. each, a first-class musical entertainment will be provided, and the chair will be taken by R. Ballantine, Esq., Chairman of the Committee.

— ROYAL HORTICULTURAL SOCIETY.—We have pleasure in announcing that, by the kind permission of the Treasurer and Benchers, the great summer Show of the above Society will be held in the Inner Temple Gardens on June 1st and 2nd, 1892, when a display as extensive, rich, and diversified as before may be confidently anticipated.



— OAKDENE, GUILDFORD.—We are requested to announce that this estate has been purchased by the Marquis of Sligo, and that Mr. W. H. Aggett remains in charge as head gardener.

— RAISING CHRYSANTHEMUMS FROM SEED.—Is it possible to ripen the seed of Chrysanthemums in this country? If so, what is the mode adopted, and how are the flowers hybridised?—STANSTEAD SURPRISE.

— KINGSTON CHRYSANTHEMUM SOCIETY.—We are informed that the Committee of the Kingston and Surbiton Chrysanthemum Society have decided to hold their next Exhibition on November 8th and 9th, 1892, and that judges are being engaged for the occasion.

— LECTURES IN HORTICULTURE.—We are informed that Mr. G. Jordan, gardener to the Rev. Hugh Berners, Harkstead Rectory, Ipswich, has been appointed by the County Council of Suffolk to deliver twelve lectures on horticulture in the neighbourhood of Ipswich.

— THE second CHRYSANTHEMUM SHOW AT ELLESMERE (Salop) appears to have been very satisfactory, for the numbers of entries as compared with last year show an advance from 73 to 113. The President is Mr. Brownlow R. C. Tower, who gave an interesting address on the Chrysanthemum in the afternoon.

— BIRMINGHAM GARDENERS' ASSOCIATION.—A well-considered exhaustive paper on the Culture of the Melon was read at the last meeting of the Birmingham Gardeners' Association by Mr. William Comfort, The Gardens, Knowle Hall, near Birmingham. A lengthened discussion followed, and a very hearty vote of thanks was awarded.

— GARDENING APPOINTMENTS.—Mr. Henry Osman, having resigned his engagement at Harefield, has been appointed gardener to Mrs. Miller, Brentby House, Westbury-on-Trym, Gloucestershire. The following appointments have been recently made through Messrs. J. Laing & Sons, Forest Hill:—Mr. G. Yoell, late of Colley Lodge, Reigate, as head gardener to W. Watkins, Esq., Fairfield, Lee, S.E.; Mr. Beckett as head gardener to F. Behrens, Esq., Worleston Grange, Nantwich; and Mr. C. Stocking as head gardener to the Earl of Aylesford, Packington Hall, Coventry.

— THE works of the LATE MR. HIBBERD.—Messrs. W. H. & L. Collingridge, the proprietors of the *Gardeners' Magazine* (the editorship of which was under the late Mr. Shirley Hibberd) have purchased of the receiver of the estate of Messrs. Groombridge & Son, Limited, the whole of the stock, copyright, engravings, and stereotype plates of the well known gardening books by the late Mr. Shirley Hibberd, and will in future supply the trade. Many of the books are at present out of print, new editions of each are in preparation.

— ALTHOUGH MIGNONETTE is a great favourite with most people, and much frequented by bees, it is not cultivated to the extent as it might be, nor in a manner to prolong its flowering. Treated as a hardy annual it is seldom seen in bloom before the end of July, but when treated as a biennial it may be had in flower from the end of April or the beginning of May in the open ground, just as the plants have been treated. I used to preserve the plants in frames, and sometimes in dry sheltered positions the whole winter, and when spring came had only to plant them out in any vacancies in the flower garden.—W. T.

— MR. ALBERT KOEBELE, the American entomologist, is travelling in the Australasian colonies for the purpose of studying the ENEMIES OF INSECT PESTS. In introducing him to the Wellington Philosophical Society at a meeting on September 23rd, Sir James Hector recalled the circumstances connected with a memorable service which Mr. Koebele lately rendered to California. In 1888, when on a visit to South Australia in search of a small fly (*Testophonus*), a parasite on that dreadful pest *Icerya Purchasi*, Mr. Koebele discovered a single ladybird (*Vedalia*) preying on the pest. He found a second specimen in New South Wales, and then on his arrival in New Zealand he found that the *Icerya* about Auckland was also being destroyed by something, and this, too, turned out to be *Vedalia*. He at once saw that here was the thing he sought, and he was fortunate enough to be able to collect several thousands of *Vedalias*, which he afterwards liberated in California. Up to that time California had been so eaten up by *Icerya* that the damage was estimated at twenty millions of dollars annually. Yet, in twelve or fifteen months after the liberation of *Vedalia* in April, 1889, the State was practically free from the dreaded pest. Sir James Hector rightly characterised this work of Mr. Koebele as one of the grandest things in the interest of fruit and tree-growers that have been effected in modern times.—(*Nature*.)

— THE WOODBRIDGE HORTICULTURAL SOCIETY.—The Committee of the above Society show in the financial statement of their Floral and Musical Fête, held in the Abbey Grounds on July 9th last, a balance in their favour of £39 5s. 9d. In consequence of the fire which occurred in the Tan Yard, by which the whole of the working plant was consumed, it was necessary for the Committee to have new stands made which cost a considerable amount, besides various other materials which have not all been replaced yet, the Committee feeling the expense too great to incur in one year, but they trust that all friends will rally round the old Society so that next year the whole of the working stock may be obtained. The town having taken up the question of allotments so warmly, the Committee hope to be able to offer more encouragement to allotment holders in future. The next Show is fixed for July 7th, 1892, and a £25 cup is offered for twenty-four Roses (open), a remarkably liberal prize.

— PROF. G. L. GOODALE, of Harvard University, has recently paid a visit to the MUSEUMS AND BOTANICAL GARDENS IN THE TROPICS AND IN THE SOUTHERN HEMISPHERE, and has contributed an interesting description of them to the *American Journal of Science*. In the number for October we find an account of the Technological Museum at Sydney, which contains a very complete collection of the economic vegetable products of Australia, and which is largely visited by the working classes; of the two Botanic Gardens at Brisbane, one of them under the management of the Society of Acclimatisation; the Botanic Gardens at Geelong, Dunedin, Christchurch, and Wellington; the Museums at Dunedin, Christchurch, Wellington, and Auckland; and the small but excellent local Museum and Garden at Hobart. Prof. Goodale notices, with commendation, the tenacity with which all the Australian Museums cling to rare specimens of archaeological and ethnographical interest, instead of utilising them for exchange.

— THE TEIGNMOUTH AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION held a non-competitive Show in the Assembly Rooms on Friday, November 20th. The object of the Show was to start a fund for a library in connection with the Association. Some very effective groups were arranged most creditable to the gardeners of the neighbourhood, as it is only five weeks since this Show was suggested. H. Hammond-Spencer, Esq. (the President of the Association) sent a fine group of miscellaneous plants, Orchids, a fine *Adiantum farleyense* over 5 feet across, with fourteen dozen cut blooms of Chrysanthemums; Miss Fripp sent some fine cut blooms and fruit; Mrs. Marsh-Dunn, Carlton Lodge, had a very good group of Palms and Chrysanthemums, as also did H. Leah, Esq., — Atkins, Esq. F. Wheatly, Esq., Endfield, Shaldon, sent some beautiful Orchids in splendid condition; the Rev. A. Simms, Newton Abbot, showed good cut blooms of Chrysanthemums; Messrs. Hannaford & Son, nurserymen, displayed a fine bank of miscellaneous plants, &c.; Mr. Stamp, nurseryman, Bishops Teignton, also had a small group. The Show was a great success in every way, after all expenses are paid there will be a balance in hand of £15.

— A FURTHER NOTE ON THE KINGSTON SHOW.—The furious gale of Wednesday, November 11th, accompanied with the drenching rain, seriously affected the receipts on the second day of Kingston Show. Fortunately, the Society has a good reserve fund, and in the evening of the second day the prize money was paid to the successful competitors to the amount of £130. A most interesting feature of the Exhibition, which we were unable to note before, was the class for twenty-four blooms, twelve incurved and twelve Japanese, the first prize a cup value £5 5s., given by Messrs. John Laing & Sons, Forest Hill, which brought six magnificent collections, so even and fresh that each collection would have done honour to any first-class show. Mr. R. Cawte received the premier distinction with massive blooms of Lord Leicester, Violet Tomlin, Jeanne d'Arc, Alfred Salter, Queen of England, Miss M. A. Haggas, Prince Alfred, Golden Empress, Brookleigh Gem, Princess of Wales, Mrs. Coleman, and Lady Hardinge; Japanese Avalanche, Mons. Bernard, Condor, Edwin Molyneux, W. W. Coles, Stanstead White, Jeanne Délaux, Ralph Broeklebank, Mrs. H. Cannell, Stanstead Surprise, Puritan, and Carew Underwood. Mr. Woodgate ran the first prize collection very close, and received the second award; Mr. R. Coombe was third, and Mr. J. Wilkins fourth. A finer display of reflexed has probably never been seen, and Mr. J. Carpenter was deservedly awarded the first prize with the following:—Amy Furze, Cloth of Gold (two), Cullingfordi (two), King of Crimson, Golden Christine, Pink Christine, and Mrs. Forsyth (two). There were six competitors, all staging grand collections. Large Anemones, Pompons, and Anemone Pompons were alike all extraordinarily fine, and brought



several representatives, as well as the classes for eighteen distinct (six Japanese, six incurved, and six Anemone), and for twenty-four distinct (eight Japanese, eight incurved, and eight reflexed), and brought a very keen competition, which was much admired. The maiden classes were also well filled, as were indeed all the special classes, and Kingston has once more held its own amongst the foremost exhibitions of 1891.

— THE CORRIDOR AT CLEVELEY, ALLERTON.—A beautiful display of Chrysanthemums has been recently provided at the above place. A bank was arranged running the whole length of the corridor, 120 feet. Of Japanese Etoile de Lyon, Gloire de Rocher, G. Daniels, Madame Laing, A. H. Neve, Belle Paule, Sunflower, Condor, W. W. Colcs, and many others were represented in the best possible manner. In the incurved the Princess of Wales types were very fine. On a stage at the opposite side were scores of plants of *Salvia splendens*, carrying abundance of flowers, and affording a fine contrast to the Chrysanthemums. To view the whole from either end was delightful. On the back wall beautiful trusses of *Plumbago capensis* and *alba* were still showing, and the waning flowers of the *Bougainvillea* showed bright in several places. This corridor is one of the many places I enjoy when visiting Cleveley, and Mr. Cromwell, the gardener, seems to make it an ever-changing scene.

— DOUBLE MIGNONETTE.—Whilst visiting the nursery of Mr. W. Treseder, Cardiff, a few days ago, I was shown what was termed a "White Mignonette." Its whiteness I found was due to the fact of its being double and having all the stamens suppressed. The variety is consequently sterile, and can only be propagated by cuttings. The best of the plants had nearly finished flowering at the time of my visit, but even then the perfume from the few remaining flowers was delightful. Mr. Treseder informed me that it was a splendid variety for winter and spring work. He said that a single cutting would develop into as compact and bushy a plant as could be desired. One peculiar and valuable character of this double Mignonette is, that from the empty capsules, fresh racemes spring forth, giving the inflorescence the appearance of a compound raceme. The variety was discovered two years ago in a large bed of ordinary Mignonette, and although there was but one plant of it, the density of its racemes attracted attention, and when found that it did not bear seed, cuttings were at once taken, and a good stock gradually worked up.—W. W. PETTIGREW.

— SOME time ago the Department of Agriculture in New South Wales included in its list of economic plants suitable for cultivation in the north-eastern portion of the colony the "AVOCADO" or "ALLIGATOR PEAR" (*Persea gratissima*, *Gærtn.*). Several inquiries about it having since been made, Mr. F. Turner provides an account of the plant, with an illustration, in the August number of the *Agricultural Gazette* of New South Wales. Unless it is grown in very sheltered situations, the climate of Sydney is too cold for its successful cultivation as a commercial crop; but Mr. Turner thinks that on the northern rivers of New South Wales it should bear fruit as prolifically as it does in Southern Queensland. Some years ago, in the Brisbane Botanic Gardens, a fine Alligator Pear tree bore annual crops of very fine fruit, and it may do so still. When Sir W. W. Cairns was Governor of Queensland, he often asked Mr. Turner for some of the fruit when it was in season, and Mr. Turner kept him well supplied, for at that time no one seemed to care much for it. His Excellency told Mr. Turner he was very fond of the fruit for breakfast, and he used to eat it spread on bread and butter, with pepper and salt added to give it zest, and in various other ways. Mr. Turner did not care for the fruit at first, but afterwards became as fond of it as his tutor. So we are not unlikely to hear of the Alligator Pear by-and-by as a popular Australian product.

— THE ROYAL METEOROLOGICAL SOCIETY.—The first meeting of the present session was held on Wednesday evening, the 18th inst., at the Institution of Civil Engineers, Mr. Baldwin Latham, M.Inst.C.E. (President), in the chair. Eleven new Fellows were elected. Mr. R. H. Scott, F.R.S., gave an account of the proceedings of the International Meteorological Conference, which was held at Munich from August 26th to September 2nd. The following papers were also read:—1, "Account of an Electric Self-recording Rain Gauge," by Mr. W. J. E. Binnie, B.A. This is a very ingenious instrument, and has been constructed on the assumption that all drops falling from an orifice or tube are identical in weight, as long as the dimensions of the orifice are not varied." 2, "On Wet and Dry Bulb Formulæ," by Prof. J. D. Everett, F.R.S. This is a criticism of the methods investigated some years ago by Mons. August and Dr. Apjohn for determining by calcula-

tion the maximum vapour tension for the dew point from the temperatures of the dry and wet bulb. Prof. Everett also criticises the values adopted by Regnault, and says that in presence of the uncertainty as to a rational formula he thinks that Mr. Glaisher did wisely in constructing his table of factors, which give the dew point approximately by the most direct calculation which is admissible. The inherent difficulties of hygrometric observation and deduction are great, and have not yet been fully overcome. 3, "Results of Meteorological Observations made at Akassa, Niger Territories, May, 1889, to December, 1890," by Mr. F. Russell, F.R.G.S. This is in continuation of a former communication respecting the same place. After detailing the results of the various observations the author says this period was very unhealthy, and the year 1890 especially so. The weather was exceptionally dry, with small pox and phthisis amongst the native population. The west coast reports generally were also unfavourable in reference to the condition of resident Europeans, and at the principal ports quarantine regulations were put in force consequent upon an outbreak of yellow fever in places situated to the south-west. At Bonny ten deaths occurred from November to February out of a population of some sixteen Europeans.

## CHRYSANTHEMUM SHOWS.

(Continued from page 452.)

### SCOTTISH HORTICULTURAL ASSOCIATION'S SHOW AT EDINBURGH.

THIS large Show was held in the Waverley Market on the 19th, 20th, and 21st inst. The Managing Committee, encouraged by the great success of the two previous exhibitions, had again procured the services of the Grenadier band, under the leadership of Mr. Dan Godfrey, and in addition to the heavy item of bringing this celebrated band over 400 miles, they this year introduced the electric light for the three evenings of the Exhibition. The bareness of the huge building was somewhat covered by means of coloured drapery and a free use of evergreens, and the pillars being wreathed with these and studded with incandescent lamps, a pleasing effect was produced at night.

As a Chrysanthemum Show this was undoubtedly the best yet held by the Association, the cut bloom division being well filled, and in the Japanese section the blooms were of exceptionally fine quality. In the incurved section were also some notable examples of high class culture, but these as a rule were wanting in size. In the division for plants the improvement was most marked, many extremely well grown examples being staged. The few groups that were arranged formed one of the poorest sections, though the large group of Messrs. Methven & Sons was undoubtedly one of the leading features of the Show.

The blue ribbon of the several classes was the £20 cup offered by the Corporation of Edinburgh for forty-eight blooms, Japanese, in thirty-six varieties, the Association adding several substantial prizes to the less successful. The struggle for this coveted prize was engaged in by twelve competitors, several of whom had capital stands. Mr. Parker, Impney, and Mr. Machattie, Newbattle Abbey, had a close fight for the cup, but notwithstanding the massive proportions of the Staffordshire blooms, the fresher and younger flowers from Newbattle gained the day, and to Mr. Machattie, gardener, the cup was awarded for the second time. The blooms were remarkably even, and just at the right stage, neither too young nor too old. Extra fine were the following:—Viviand Morel, Condor, Boule d'Or, Etoile de Lyon, Elaine (two grand blooms), Gloriosum, Lillian Bird, M. Bernard, Avalanche, Mdma. Audigui, Puritan, George Atkinson, Coronet, and W. H. Lincoln. Mr. Parker, as indicated, was second; and Mr. Macher, gardener to R. Mudie, Esq., Broughty Ferry, with a very fresh but somewhat uneven lot, obtained third place. Fourth, Mr. Carruthers, gardener to Mrs. Fleming, Hillwood, Corstorphine, a grand bloom of Viviand Morel in this stand being selected as the best Japanese bloom in the Show. Fifth, Mr. A. Milne, gardener to Thos. Balmain, Esq., Hardington House, Lamington.

For the Scottish challenge cup, open to gardeners in Scotland only, for twenty-four blooms, incurved, the competition was not exciting, M. A. Wall, Blackhouses, Skelmorlie, secured the cup with blooms a little rough; second, Mr. Mathieson, Dhaling Mohr, Kirn; third, Mr. J. Clark, gardener to Mr. Roberts, Bannerfield, Selkirk. The stand included a good Empress of India, which was awarded the prize as the best incurved bloom in the Show.

The following were open to all gardeners and amateurs. Twenty-four blooms, twelve incurved, and twelve Japanese: first, Mr. Parker, Impney Hall, Droithich, for a very fine lot—Robert Cannell, Miss Haggas, Princess of Wales, and Lord Alcester being particularly fine in the one section, and Florence Davis, W. H. Lincoln, Etoile de Lyon, and Triomphe de la rue des Châlets in the other; second, Mr. Foster, gardener to Mrs. Roberts, Wellwood Park, Selkirk, and third Mr. Burden, gardener to G. Cockburn, Esq., Lingdale Lodge, Birkenhead. Twelve competitors. For twenty-four Japanese there were ten competitors: Mr. Kyles, gardener to Lady Q. Foulis, Corstorphine, was first with very fresh and bright blooms; second, Mr. Machattie; third, Mr. J. Beisart, Castle Huntley, Longforgan. For twenty-four incurved Mr. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, Liverpool, was first with a very good stand, Golden Empress being extra fine; also noteworthy were the blooms of Princess of Wales, Miss M. A. Haggas, Prince Alfred, Lady Dorothy, and Princess of Teck; second,



Mr. Burden; third, Mr. Clark, who had in this stand a perfect Golden Empress, to which was awarded the prize for the best bloom in the Show. Fifteen competed in the class for twelve Japanese, Mr. Parker being first with a stand of very fine blooms. W. H. Lincoln, M. M. Hoste, Mr. A. H. Neve, Triomphe de la rue des Châlets, and Etoile de Lyon being extra good; second, Mr. Geddes, gardener to G. Elder Esq., Knock Castle, Largs, bloom of a bright and fresh colour; third, Mr. Machattie, this was a fine class. For twelve blooms, six of each, Mr. Geddes was first with a very fresh lot, Mr. Machattie second, and Mr. Matthieson third. For six Japanese Mr. Beisant was first, Mr. Clarke second, and third Mr. Jellicoe. Fourteen entries.

In the class for six Avalanche ten competed, Mr. Geddes being first

least not decorative. The third lot contained Japanese, large blooms, which were decorative. There seems to be still a good deal in a name, and it would appear that this decorative class might be worth defining with clearness.

The classes for pot plants were well filled, and, as already stated, the plants were generally very good. Mr. D. Cavanagh, gardener to Mrs. Oliver, Murrayfield, Mr. Copeland, gardener, Orwell Lodge, and Mr. Cowan, Dunedin, took the chief prizes. An interesting exhibit was that of two standard Chrysanthemums, grafted, each with several varieties. Mr. Machar had the one, and Mr. Copeland the other. Mr. Petrie, Westerlea, Murrayfield, had the best group. Prizes were also given for various flowering and foliage plants, including Zonal Pelargoniums, Primulas, and others.

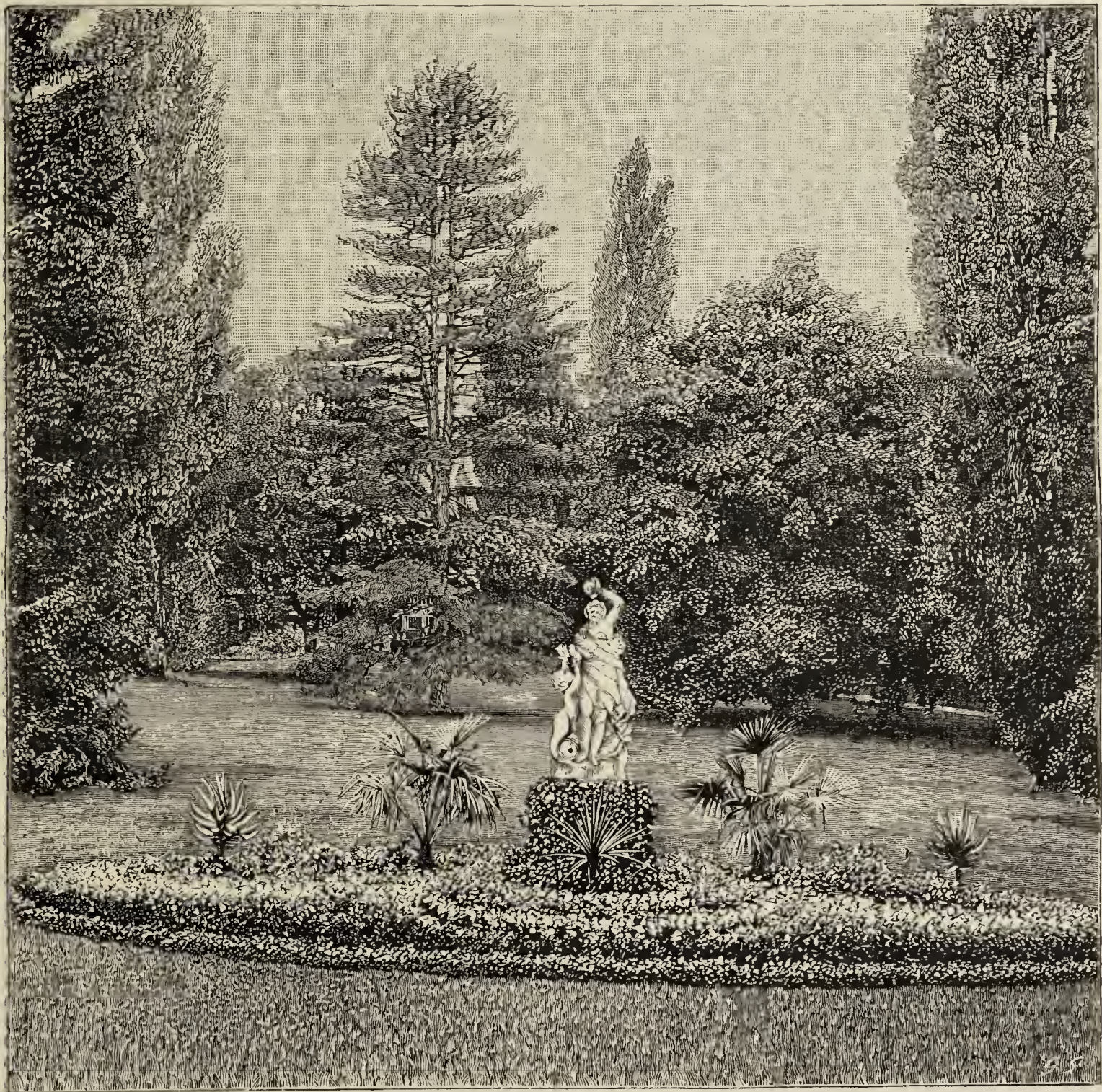


FIG. 85.—A VIEW IN THE GARDEN AT PREGNY, NEAR GENEVA. (See Page 446.)

with deep perfect flowers. Second, Mr. Kyles. Mr. Geddes was again first for six Stanstead White, with extra fine blooms. Second, Mr. Beisant. For six Boule d'Or, Mr. Kyles was first. For six E. Molyneux, Mr. Watt, gardener to J. Stewart, Esq., Blackhouses, was first, very good fresh blooms. Second, Mr. W. Lillie, Railway Station, Selkirk. For twelve incurved, Mr. Jellicoe was first with fresh but not over-large blooms. For six incurved, Mr. Nicoll, gardener to G. W. Bell, Esq., Rossie, Longforgan, was first with notable examples of the Queen family. For six Lord Alcester, Mr. Nicoll was again first with large but somewhat flattened blooms, and again for six Golden Queen. For six Empress of India, Mr. Watt took first, as also for six Golden Empress. The first prize for twelve reflexed varieties was secured by Mr. Watt, blooms small. For twelve trusses, decorative, there were three competitors, the first and second prizes being awarded to stands of small flowered varieties and Pompons which might be anything, but were at

Fruit was a rather poor show. Some good Pine Apples were exhibited by Mr. Dunn, Dalkeith Palace; and Mr. McIntyre, The Glen, was first for respectively one and two Pine Apples. Mr. Murray, Parkhall, Falkirk, had the best four bunches of Grapes, Mr. Leslie the best Muscat of Alexandria, Mr. Murray the best Alicante, Mr. Young, Peebles, the best Lady Downe's. There was a fair lot of Apples and Pears staged, but nothing calling for remark.

Vegetables were very largely shown. Some excellent collections of thirteen varieties, and single dishes of Cucumbers, Cauliflowers, Tomatoes, Leeks, Celery, &c., in great numbers, and of the most excellent quality. Miscellaneous exhibits included the group from Messrs. Methven & Sons already referred to, another from Dickson and Co., Waterloo Place, and collections of fresh blooms of Chrysanthemums up to date from Mr. Jones, Lewisham, and a sale stand of plants and flowers in favour of the Gardeners' Orphan Society.



## SWANSEA.—NOVEMBER 11TH AND 12TH.

THIS, the second of the above Society's ventures, proved, from a horticultural point of view, a splendid success, being on the score of quantity and quality a very marked advance on that of last year, all the open and limited classes being well filled, and in the former class—notably in the forty-eights, the competition was of a very high order of merit. The first and second lots were the finest stands I have seen so far this season.

The first prize for forty-eight was secured by Sir Charles Phillips, Bart., Picton Castle, Haverfordwest (Mr. Dumble, gardener). His best Japs were Sunflower, Avalanche, Meg Merrilies, Fair Maid of Guernsey, Annie Clibran, W. W. Coles, Ralph Brocklebank, Puritan, Madame C. Audiguier, M. A. E. Carrière. Incurred: Empress of India, Queen of England, Miss Haggas, Lord Alcester, Violet Tomlin, Jeanne d'Arc, Princess of Wales, John Doughty, indeed the incurred throughout were a perfectly even and clean lot. The second blooms, only less meritorious than the above, came from Sir H. H. Vivian, Bart., Singleton Park (Mr. Ireland, gardener), and in his incurred the Queen family were notably fine, but the stand on the whole had not the evenness or finish of the first lot. His Japs, however, were exceedingly good; among them were splendid blooms of Mr. A. H. Neve, Volunteer, M. Pigny, Miss A. Hartzhorn (a glorious flower), Mr. E. W. Clarke, &c. Mr. Hardy, gardener to J. C. Richardson, Esq., Glanbrydan, was third with pretty and fresh blooms. For twenty-four varieties, twelve Japs, twelve incurred, the same order was maintained in the first and second with similar quality to above class. Right Hon. Earl of Lisburne, Crosswood Park (Mr. Williams, gardener), taking third with a very creditable stand. For twelve, six Japs, six incurred, Colonel Wright, Gowerton (Mr. Weaver, gardener), was a good first; Mr. Dumble taking second place; and third, Mr. J. Harding, Guiscedwyn House.

There was a very strong competition, too, in the distinct classes, Mr. Ireland taking first for an excellent group of Chrysanthemums; Mr. D. Jenkins second; and Mr. Hammond, gardener to B. Evans, Esq., third. In the plant classes the prizetakers were Messrs. Ireland, Hammond, and W. Walters.

For twenty-four blooms, twelve Japanese and twelve incurred, Mr. Ireland was first; Miss Talbot, Penrice Castle (Mr. Milner, gardener), second, with very fine quality; and Mr. E. Gwyn, Neath, third. With twelve incurred Mr. Ireland was again first, and Mr. Hammond second. For twelve Japanese Mr. Milner was first, Mr. Ireland second, Mr. Weaver and Mr. E. Stuck equal thirds. With six reflexed and six Anemones Mr. Ireland had matters his own way. For thirty-six blooms (eighteen Japanese, eighteen incurred), open to Wales and Monmouthshire, Mr. Dumble again scored, closely followed by Mr. Weaver; Mr. Muir, Margam Park, taking the third place. For table plants Mr. Morgan, gardener to A. Gilbertson, Esq., Pontardawe, took the first place, Mr. Ireland being second, and Mr. Tom Barron, florist, third. Mr. Morgan was also first for Cyclamens and third for Primulas, Mr. Buckmaster taking first and Mr. Ireland second. Mr. T. Barron and Mr. Davidson took honours for bouquets and wreaths in the order of their names.

Fruit was very indifferently shown, but vegetables were excellent, as may be imagined when a Shrewsbury veteran enters the lists. Mr. Milner of Penrice Castle had a magnificent collection in competition for silver cup and prize given by Messrs. Parsons & Co., seedsmen of Swansea, with which he took first, and Mr. Ireland of Singleton, with a grand collection also, taking second. There were other competitions in vegetables for prizes given by the Committee and by Mr. James Harris of Swansea, but all were overshadowed by the collections above mentioned. The amateurs' and cottagers' classes were filled with very excellent exhibits, and the Chrysanthemum fever might be said to have caught on in the district. In addition to special prizes mentioned Mr. Ireland won that offered by Messrs. Garaway for best six Japanese blooms; and Mr. Hammond won the silver cup, offered by B. Evans, Esq., for six specimen plants.

Trade exhibits were staged by Mr. J. Harris, Black Pill, Swansea; Messrs. Parsons & Co., Swansea; Farrant, Swansea, miscellaneous tables of plants, &c.; Mr. Roberts, Uplands, Swansea, a pretty exhibit of Apples; The Neath Potteries, their specialities; and Messrs. W. Clibran & Son of Altrincham stands of cut blooms, new and rare varieties, also their new Fern Pteris Clibrani.

## HITCHIN.—NOVEMBER 13TH.

ALTHOUGH this Society does not boast of such wealth as many of the Societies existing in more populous districts, it can produce a Chrysanthemum Show second to very few indeed. The classes number only forty, but the Committee do not believe in offering a large number and small prizes; rather would they have restricted number of classes, and substantial prizes, and keen competition. The arrangements were under the direction of Mr. W. G. P. Clarke, a hardworking secretary and enthusiastic amateur. The Corn Exchange was a suitable building for the Exhibition, and viewing the hall as a whole the scene was magnificent. The entries were quite up to the average, and without doubt the quality was in every way superior. The classes for trained specimens and bush plants produced numerous entries, which were a strong feature in the Show. In the former class Mr. W. Springham, gardener to J. H. Tuke, Esq., secured premier honours, closely followed by Mr. James Upchurch, gardener to F. Lucas, Esq., Hitchin, and Wm. Millard, gardener to William Ranson, Esq. The first prize for bush plants was taken by the three very bright specimens of Mr. G. Harwoods, gardener

to A. Ransome, Esq., Hitchin, the second falling to Mr. E. Butler, gardener to F. Selbolmn, Esq., Hitchin, and the third to W. Springham.

The first prize for forty-eight blooms, twenty-four incurred, not less than eighteen varieties, or more than two blooms of one variety, twenty-four Japanese, distinct, was won by Mr. J. Kipling, gardener to Mrs. Osgood, Knebworth Park. The blooms were a picture of neatness throughout, as well as being of large form. Amongst these blooms being—Incurred: Golden Empress, Alfred Salter, Princess of Wales, Bendigo, Lord Alcester, Queen of England, J. Doughty, Miss M. A. Haggis, and Empress of India. Japanese: Stanstead White, Mons. Berard, Etoile de Lyon, E. Molyneux, Madame J. Laing, Sarah Owen, M. C. Audiguier. The second prizewinner, Mr. A. Hornett, gardener to G. B. Hudson, Esq., of Proginone Lodge, Hertford. The Japanese were good, but the incurred were past their best. The third prize was awarded to Mr. Anning, gardener to Capt. Pringle, R.N., Digwell, Wclwyn. The twelve incurred in Section I were of fairly even character. Mr. E. Cotton, gardener to A. W. Lines, Esq., and W. Millard gaining first and second respectively. The Japanese in the same section were of excellent quality, the order being reversed, and W. Millard gaining first with Mr. E. Cotton second, and W. W. Pepper, gardener to G. Burnand, Esq., Tewin Water, as third. A silver medal and 10s. as first prize, bronze medal and 5s. as second for eighteen blooms. Nine Japanese distinct and nine incurred distinct brought a good number of competitors. Of course with Mr. W. G. P. Clark (Secretary) exhibiting it would be expected that he would be first, for it is well known that his name has appeared in prize lists all over the country, his blooms were very creditable, and were specimens of what an amateur can do. The bronze medal fell to Dr. O. H. Foster, Hitchin.

Messrs. A. Hornett and R. Sharp now followed in the next three classes as first and second prizewinners respectively. For six incurred, Mr. John Anning was third. The first prize stand of Mr. Hornett's was a fine display of Queen of England. His Stanstead White, in competition for the prize for six Japanese one variety (white), were so good that they were awarded a first-class certificate by the National Chrysanthemum Society. Mr. R. Sharp was a good second and Mr. E. Cotton third. But it was in the class for six Japanese, one variety (coloured), Mr. Hornett's exhibits were particularly good. The stand of Mons. Berard was in such splendid condition that probably they are the best ever put on an exhibition table. Again Mr. Clark far outdistanced all competitors with three Mons. Berard and three Empress of India, the stand being awarded a first-class certificate, and one of the latter blooms being the premier incurred bloom in the Show. It is worthy of notice that the same variety was the best bloom of the class in both Watford and Luton Shows. Mr. Osman was second in this class, and Mr. Sanders third.

The Pompons were poor, and in saying this it may not be out of place to say that it was the only exhibit of which it could be said they were below the average. The winners were Messrs. George Moules, Hitchin; G. Harwood, and C. R. Smith. The groups were very fine indeed, and were quite a feature of the Show. The space occupied was 30 feet, the entries numbered five. Between the first three there was little to pick, the blooms being about equal, and the arranging such that it was with difficulty the Judges decided. Mr. Osman's was, however, slightly better arranged, and following him were Mr. E. B. Lindsell, Hitchin, and Mr. Richard Sharp. The cottagers' classes were well represented, the principal prizewinner being Mr. George Sanders, Hitchin. The fruit, bouquets, vases of Chrysanthemums, and table decorations all tended to make a successful Show.

## CUCKFIELD.

THIS Society held their annual Show in the Talbot Hotel Assembly Rooms, Cuckfield, on the 17th and 18th inst., and it was fairly successful. Unfortunately there was a great falling off in the number of groups, which has always been the best feature of this Show, only two being staged. This is to be regretted for two reasons. In the first place it is not in accord with the object of such societies that a main feature should become a minor one; and secondly, it shows either a lack of perseverance on the part of local growers at better cultivation and greater skill in tasteful arrangement, or an unwillingness on the part of their employers to show them. That the latter is the case if the matter was placed before them in the proper light cannot be believed after such good results in past years. Mr. George Stringer, gardener to R. A. Bevan, Esq., Horsham, was awarded the first prize; and Mr. J. Mitchell, gardener to Mrs. Moberly, Myttons, was second, both with good groups of well grown plants, the former being specially clean and bright. Specimen plants were not numerous, but good; Mr. Mitchell and Mr. T. Burtenshaw, gardener to W. Pagon, Esq., Hatchlands, being the only exhibitors. Primulas were very good. Mr. Burtenshaw was first for the Society's prize for six plants; but the keenest contest was for Messrs. Peed & Son's prizes for a similar number. Mr. J. Mitchell here was first, followed by Mr. J. Lingley, gardener to Mr. T. W. Best, Harvest Hill; and Mr. Manton, gardener to Mrs. Clifford, Borrer Bolney. The latter was first for six Solanums; and Mr. R. Inglis, gardener to T. T. C. Lister, Esq., was the only exhibitor of Cyclamens.

There were good entries in the cut bloom classes. For twelve incurred, open to the county of Sussex, Mr. S. Horscroft, gardener to — Potter, Esq., Ardingly, was first with fresh smooth blooms. They were Miss M. Haggas, Violet Tomlin, Princess of Wales, Empress of India. Second row: Alfred Salter, Jardin des Plantes, Barbara, Mr. Brunlees. Front row: Baron Beust, Cherub, Mrs. Heale, and Mrs. W. Shipman. Mr. T. Venn, gardener to W. Sturdy, Esq., Paxhill, Lindfield, and Mr. J. Voss, gardener to W. Savill, Esq., Finches, Lindfield, followed in the order named. In a similar class for twelve Japanese



Mr. Voss took the first place with the following:—Back row: Etoile de Lyon, Boule d'Or, Baronne de Prailly, and Pelican. Middle row: Mrs. F. Jamson, Condor, George Daniels, and W. G. Drover. Front row: Belle Paule, Ralph Brocklebank, Stanstead White, and Madame Baco, all fine blooms. He was closely followed by Mr. J. Coles, gardener to — Nichols, Esq., Highley, Manor, Balcombe, and Mr. T. Venn. In the local classes for twelve Japanese Mr. Coles was first in a good competition. Mr. R. Inglis was placed first for twelve incurved, and Mr. J. Lingley for twelve reflexed.

The show of fruit was good, but it must suffice to name those taking first places. Mr. R. Inglis, for black Grapes; Mr. G. Warren, gardener to B. Hankey, Esq., Balcombe Place, for white Grapes; dessert Pears, Mr. Stringer; stewing Pears, Mr. J. Sands, gardener to T. Banister, Esq., Haywards Heath. The latter was also rightly placed first for six dishes of Apples in a competition that will not soon be forgotten at Cuckfield. The Judges placed the successful competitors in the following order:—Mr. W. Manton (second); Mr. J. Harding, gardener to B. B. Hodson, Esq., Bolney; Mr. G. Warren, and Mr. Geo. Stringer. Most of the above-named gardeners also staged Apples and Pears not for competition, as did Messrs. Peed & Son, who showed fifty dishes of fine fruit, and Mr. J. Lingley, altogether making a fine display of Apples of high quality.

This Society is thoroughly popular with the people, and it is they who chiefly enable the balance to come on the right side of the books. But it must be admitted that unless Major Moberley, the President of the Society, can prevail on his lady friends of Cuckfield to take up the question of giving some entertainment during the afternoon, as they so successfully do at Lindfield, for instance, there is but little prospect of the Society being able, however much they may wish it, to provide anything really worthy of the neighbourhood. Mr. J. Tugwell efficiently discharged the duties of Secretary, and Mr. Umpleby that of Superintendent.

#### LIVERPOOL.—NOVEMBER 17TH AND 18TH.

PERHAPS at no previous Show in connection with the Liverpool Horticultural Association has so much interest been manifested as at the one held last week in St. George's Hall. The reason is easily explained when, in addition to the ordinary prize schedules of former years, there was another silver cup and substantial money prizes offered. These latter have both been presented by Messrs. R. P. Ker & Sons, Aigburth Nursery, and they deserve the greatest compliment it is possible to pay them for the broad and liberal policy they have pursued. The gift comes at a time when the Association stands in need of it, for on several occasions lately large inroads have been made into their funds which they could ill afford. We believe there are many more amongst the wealthy inhabitants of Liverpool and the neighbourhood who would be willing to provide classes in the schedule for next year. The magnificent Exhibition of last week surpassed all previous efforts, and considering the unfavourable season through which we have just passed the exhibits must have astonished all who attended. Before entering on the awards, may we call the attention of the Committee to Rule 10 of the schedule, where it is stated that no specimens will be received after 9.30, and every exhibitor must retire at eleven, and that this rule will be strictly enforced? We do not know who was responsible for it, but the rule was not enforced. The Judges of cut blooms were there early, and if they could have commenced their duties at the time specified there would have been no need to be carrying on the work after the public had been admitted.

The cut blooms amounted to over 2000, and beautiful they looked, arranged on tables running the whole length of the hall. The groups and miscellaneous plants were arranged in banks on each side, while the staging in front of the orchestra was devoted to orchids, bouquets, and a magnificent collection of Cyclamens from Messrs. Ker & Sons, Aigburth Nursery, arranged with the admirable taste which they always evince in whatever they undertake. The highest prize in the Show for cut blooms was that presented by Messrs. Ker, viz., a silver challenge cup value ten guineas, and ten guineas in cash each year, until finally won, for thirty-six cut blooms, consisting of twelve incurved distinct, twelve Japanese distinct, and twelve reflexed in not less than six varieties, open to all within a twelve miles radius of the Liverpool Exchange, to be won twice consecutively or three times in all. Should the cup be gained by three different exhibitors, then only these three shall be entered for the final competition. This brought six competitors, and the Judges awarded the prize to Mr. A. R. Cox, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, who won more especially by the superiority of his incurved blooms, which were remarkably fresh and solid, and consisted of Empress of India, John Lambert, M. R. Bahuant, Mrs. Coleman, Mrs. Heale, Violet Tomlin, John Salter, all very fine; Golden Empress, Lord Alcester, Miss Haggas, Princess Teck, and Princess of Wales; Japanese—Sunflower, Bouquet des Dames, Lilian B. Bird, Belle Paule, Etoile de Lyon, Mr. A. H. Neve (grand), Condor, E. Molyneux, W. W. Coles, Avalanche, and Madame C. Audiguier. Reflexed—King of Crimsoms (2), Mrs. For-yth (2), Christine (2), Golden Christine (2), Cullingfordi (2), Chevalier Domage (2). The second place was taken by Mr. Donald Forbes, gardener to A. Holt, Esq., Crofton, Aigburth, who also had a splendid stand, containing remarkable blooms of Etoile de Lyon, W. W. Coles, Lilian B. Bird, and Mdle. Marie Hoste. Third, Mr. Geo. Eaton, gardener to W. H. Shirley, Esq., Allerton House, Florence Davis being a great attraction in his stand. Fourth, Mr. T. Foster, gardener to J. Brancker, Esq., Greenbank, Wavertree.

In the class for forty-eight cut blooms, twenty-four incurved and twenty-four Japanese (first prize 10 guineas and a silver cup value £5),

there were seven stands staged, the premier position being gained by Mr. George Burden, gardener to Geo. Cockburn, Esq., Lingdale Lodge, Oxtou, by two points only. Mr. Burden's incurved were especially good, and consisted of the following:—Back row: Queen of England (2), Empress of India (2), Alfred Salter (2), John Lambert, and Lord Alcester. Second row: Golden Empress (2), Violet Tomlin (2), Mrs. Heale (2), Miss Haggas, and Robert Cannell. Front row: John Salter, Mrs. N. Davis, Princess Teck, Jardin des Plantes, Lady Dorothy, Hero of Stoke Newington, Mrs. S. Coleman, and Princess of Wales. Japanese.—Back row: Etoile de Lyon (2), fine; M. E. A. Carrière, E. Molyneux (splendid), Pelican, Puritan, Vivian Morel (very fine), and W. W. Coles. Second row: T. Stephenson, Boule d'Or, Stanstead White, Mrs. Wheeler, Mrs. F. Jamson, W. H. Lincoln, Mons. Bernard (grand), and W. W. Coles. Front row: E. Molyneux, Marsa, Japonais, Mons. Bernard, Mrs. Irving Clarke, Mrs. F. Jamson, Avalanche, and Boule d'Or. Second, Mr. R. C. Townsend, gardener to J. R. Greatorex, Esq., Mytton Hall, Shrewsbury, who was a shade weaker in Japanese, but good in incurved. Third, Mr. J. Gould, gardener to R. N. Dale, Esq., Bromborough Hall, Cheshire. Fourth, Mr. C. Osborne, gardener to H. J. Robinson, Esq., Aymestry Court, Woolton. Of eighteen incurved eight stands were staged; Mr. J. Haynes, gardener to Mrs. B. C. Nicholson, Oswaldcroft, Wavertree, being first with a well-finished stand, the best being Mrs. Coleman, Jardin des Plantes, Miss Haggas, and Golden Empress. Second, Mr. R. C. Townsend. Third, Mr. J. Brantingham, gardener to W. Radcliffe, Esq., Roselands, Aigburth. There were two classes for twelve incurved, the first being won by Mr. H. Howard, gardener to A. S. Mather, Esq., Beechwood, Aigburth, Mr. T. Foster second; and the next by Mr. J. Edwards, gardener to Henry Tate, jun., Esq., Allerton Beeches, Mr. Townsend being second. In the class for six incurved Mr. J. Watson, gardener to T. S. Hannay, Esq., was first; Mr. T. Eaton, gardener to John Parrington, Esq., Roby Mount, Roby, second. In the corresponding classes for Japanese Mr. T. Healey, gardener to Col. Wilson, Hillside, Allerton, was placed first with fine fresh flowers, notable being Stanstead White, Etoile de Lyon, Avalanche, Volunteer, and W. W. Coles. Second, Mr. J. Gould, having Sarah Owen, Condor, and Etoile de Lyon, good. Mr. Geo. Eaton was third. For twelve Mr. T. Elsworthy, gardener to A. R. Gladstone, Esq., Court Hey, Roby, was first with a splendid stand; second Mr. T. Foster. Another twelve—Mr. H. Howard first, Mr. J. Edwards second. In the six Mr. J. Williams, gardener to C. J. Proctor, Esq., Birkenhead, first.

In the class for twelve blooms from those who have not won a prize previously, Mr. Coates, gardener to W. H. Verdin, Esq., J.P., Darnhall Hall, Cheshire, was a good first. Anemones were not numerous, but good in quality, as were the Pompons and the reflexed, the prizes going respectively to Mr. W. Wilson, gardener to H. Cunningham, Esq., Gorse Cop, Gateacre; Mr. R. Foster, gardener to S. H. Thompson, Esq., Thingwall Hall, Broad Green; and Mr. Sivess, gardener to S. Smith, Esq., M.P., Carleton, Princes Park. In still another class for six blooms, any kind, for those who do not employ a gardener, the prize was won by Mr. W. Mackarell, Freshfield.

Groups were very bright, and contained flowers of excellent quality. Mr. T. Winkworth, gardener to R. Brocklebank, Esq., Childwall Hall, was awarded the chief honour for a capital display. Second, Mr. J. Harrison, gardener to Mrs. W. G. Bateson, New Heys, Allerton. Third, Mr. Johns, gardener to J. Revill, Esq., Hill House, Wavertree. Mr. Johns was first for one untrained and second for six untrained, the first going to Mr. J. Lowndes, gardener to S. S. Parker, Esq., Sudley Road, Aigburth, who was second for one large flowered. Trained plants were poorly shown. For three large flowering, Mr. T. Wilson, gardener to C. H. Williams, Esq., Fulwood Park, Aigburth, was the only exhibitor. Mr. Wilson was also first for one large flowering, one Pompon, second for three Pompons and one pyramid. Mr. Thomas Gowen, gardener to J. A. Bartlett, Esq., Mossley Hill, was first for one standard, one pyramid, and an extra first for six untrained. Mr. T. Robinson, Mossley Hill, first for three Pompons; Mr. Winkworth was second with a standard on which some seven varieties were grafted.

In the miscellaneous plant classes the chief were secured by Messrs. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, A. R. Cox, T. Healey, T. Gowen, C. Osborne, T. Wilson, T. Foster, R. Pinnington (gardener to Edward Banner, Esq., Backlow House, Roby), J. Harrison, T. Hitchman (gardener to Arthur Earle, Esq., Childwall Lodge), and H. Wright, gardener to C. MacIver, Esq., Yew Tree House, Allerton.

Seldom has fruit of such excellent quality and quantity been seen in Liverpool. In every class the competition was of the keenest character. For a collection of six dishes there were seven exhibitors. Mr. T. Elsworthy was placed first for splendid Alicante and Muscat of Alexandria Grapes, fine Hero of Locking Melon, Marie Louise and Durondcau Pears, and Cox's Orange Pippin Apples. Second, Mr. J. Bennett, gardener to the Hon. C. H. Wynn, who had also a grand collection. Third, Mr. J. Barker, gardener to J. W. Raynes, Esq., Rock Ferry. For two Pine Apples Mr. P. Blair, gardener to Duke of Sutherland, Trentham, was the only exhibitor.

The most successful exhibitors in other classes for fruit were Messrs. Elsworthy; J. Hollingsworth, gardener to J. F. Campbell, Esq., Woodseat, Uttoxeter; W. Oldham, gardener to Joseph Beccam, Esq., Ewansville, Huyton; Sivess; Fergusson, gardener to Mrs. Paterson, Rock Ferry; McMaster, gardener to Sir Ughtred Kay Shuttleworth, Gawthorpe Hall, Burnley; Middleton, gardener to R. Pilkington, Esq., Rainford Hall; J. Downham, gardener to E. H. Harrison, Esq., Eastham; J. Broome, gardener to T. Harrison, Esq., Belle Vale, Gateacre; J. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby;



S. Barlow, Stakehill, Castleton; Rev. L. Garnett, Christleton Rectory, Cheshire; and J. Davis, Bodenham, Leominster.

Certificates of merit were awarded to Messrs. R. P. Ker & Sons for a splendid group of Cyclamens; to the Liverpool Horticultural Company for groups of Orchids, Ferns, and miscellaneous plants; to Messrs. Clibran and Son, Altrincham, for new Chrysanthemums with capital blooms of the following Japanese: Annie Clibran, Aida, Alberic Lunden, Cesare Costa, Elliott F. Shepherd, Eynsford White, Sugarloaf, Vivian Morel, Louis Boehmer, Mrs. Levi, P. Morton, Coronet, Mr. A. H. Neve, Mdle. Marie Hoste, W. H. Lincoln, and Gloire du Rocher, the same firm having also a splendid stand of single Chrysanthemums which were much admired; and to Mr. R. Owen, Maidenhead, for new seedling Chrysanthemums, three of which were certificated—viz, F. W. Flight, G. C. Schwabe, and Mrs. Robinson King. Mr. Carling, gardener to Mrs. Cope, Dove Park, Woolton, showed a pure white sport from Etoile de Lyon. A special certificate of merit was awarded to Messrs. J. Williams & Co., Manure Manufacturers, 62, Mount Pleasant, Liverpool, for Williams' Garden Fertiliser.

Cultural certificates were awarded to Mr. W. Kipps, gardener to W. Crosfield, Esq., Walton Lea, for three fine Pine Apples; to Mr. R. C. Townshend for a fine dish of Onions; to Mr. R. Pinnington for a capital basket of Grosse Calebasse Pears; and to Messrs. Dicksons, Limited, Chester, for some fine fruit taken from young pyramids growing in their nursery. The attendance was not so good as last year, but still it was satisfactory, and was visited by all the leading families in the neighbourhood, including the newly appointed Mayor and Mayoress (Mr. and Mrs. J. de Bels Adam) who opened the Exhibition, the Chairman, Secretary, and Committee having every reason to be proud of such a beautiful Exhibition.

#### SALISBURY.—NOVEMBER 17TH AND 18TH.

THE annual Exhibition of Chrysanthemums, fruit, and flowers was held in the County Hall on the above dates, and although there was a decrease in the number of entries, there was certainly no falling off in the quality of the exhibits staged. The decrease was more noticeable in the cut bloom (open) classes, and may be accounted for by the fact that the three previous years—thanks to the energy of Dr. F. W. Coates, a generous supporter of horticulture in and about Salisbury—four silver cups were offered to be competed for, and three of these having been won for the third time in succession last year, none had been offered in their stead to be competed for this year.

Groups of Chrysanthemums and of miscellaneous plants made a good show, the winning ones being efficiently and tastefully arranged. The principal class, and one which evoked much local interest, being that in which the £10 10s. challenge cup, together with a small money prize constituted the premier awards; the plants to be arranged in a semi-circle of 10 feet by 6 feet, the cup to be won three years in succession before becoming the property of any one exhibitor. Mr. Frank Pearce, Crane Street, Salisbury, was a good first for well-grown plants, clothed with rich green foliage from the pots and most tastefully arranged, gradually diminishing in height until the outer row of plants barely showed about the edging of Maidenhair Fern which gave finish to the whole. The blooms, too, were uniformly large, even, and fresh, and the colours well intermixed. This is the second year that Mr. Pearce has won the trophy in succession. Mr. A. Robey, gardener to Captain Greenwood, Harnham Cliff, Salisbury, was second, and if he had had some dwarfier plants for the two outside rows and an edging of Maidenhair Fern instead of *Panicum variegatum* he would have stood a good chance of being first. Alderman Lovibond, St. Anne Street, Salisbury, was a creditable third. Mr. Haskins, Poultry Cross, Salisbury, was an easy first in the amateurs' class, his plants being dwarf, and capitally grown and efficiently arranged, being a bright and attractive group. Mr. W. H. Pearce, New Street, was second.

Three groups of miscellaneous plants were arranged on a space covering the same area indicated above. Two of these were very close to each other in point of merit, and took the Judges some time to determine their relative positions; the premier position being ultimately accorded to Mr. Curry, gardener to Col. Pepper, Milford Hill, Salisbury, for a most tastefully arranged and highly effective group. Brightly coloured Crotons and Dracenas and variegated narrow-leaved plants and small Palms set at intervals in a carpeting of Maidenhair Fern (*Adiantum cuneatum*), among which the pale green leaves spotted with white of *Caladium argyrites* showed off to great advantage. An edging of *Panicum variegatum* and *Isolepis gracilis* and the arching fronds of a healthy Palm (*Kentia Fosteriana*) occupying a central position at the back gave an imposing finish to the whole. Mr. A. Robey secured the second prize for a capital arrangement, the plants employed being similar to those used in the first prize group, except that the variegated-leaved plants, which gave it such a light effect, were absent. In his arrangement were a few good plants of *Oncidium crispum*, one having a very fine spike of well developed flowers; *Cypripedium Lawrenceanum*, C. Lowi, and *Cattleya Bowringiana*, which had due weight with the Judges. Mr. Frank Pearce was a decent third.

Specimen plants were not well shown, neither was the cultural skill displayed of a high order. With four plants Mr. A. Robey was first, and Mr. James Chalk, gardener to George Read, Esq., Westwood, Wilton Road, Salisbury, was second. For two specimen plants of Chrysanthemums (open only to those not keeping a regular gardener), Mr. John Kaines, Twyford, Winchester, was first with dwarf, healthy, and well flowered plants of Berthe Rendatler and Cloth of Gold; Mr. W. H. Pearce, New Street, Salisbury, being second. The same exhibitors occupied like positions in the single specimen (open) class; Mr. Chalk

being third; Mr. Kaines staging a nice compact plant of Barbara, having good sized, solid, even, and fresh flowers.

Cut blooms were not shown so extensively as in previous years, but the quality of the exhibits was quite as good. The chief class was for thirty-six blooms, eighteen Japanese and eighteen incurved, to include not more than two of any one variety. Mr. Neville, gardener to F. W. Flight, Esq., Twyford, Winchester, was first, staging large, solid, even, fresh blooms of fine finish, the incurved being Princess of Wales (two), Mrs. S. Coleman (two), Princess of Teek (two), Lady Dorothy, Miss Haggas (two), Violet Tomlin (two), Mr. Brunless (two), Hero of Stoke Newington, Queen of England (two), Alfred Salter (two); Japanese—Etoile de Lyon (two), Thunberg (two), Triomphe de la rue des Châlets, W. W. Coles (two), Meg Merrilies, Mrs. Jesse Clarke, Gloriosum, Leon Track, Mrs. Wheeler (two), Sarah Owen, Ralph Brocklebank, Edwin Molyneux (two), and Bertha Flight. Mr. W. Robinson, gardener to Lord Chief Justice Lopes, Heywood, Westbury, was a good second, his best blooms being Etoile de Lyon (two), George Maelure, Louis Boehmer, Lord Alcester, Princess of Wales, Violet Tomlin, and Golden Empress of India. The third prize going to Mr. George Inglesfield, gardener to Sir John Kelk, Bart., Tedworth, Marlborough, for good all-round blooms.

In the class for eighteen blooms of not less than twelve varieties (open to amateurs only) Mr. W. Follen, gardener to J. D. Willis, Esq., Bapton Manor, Codford, near Warminster, was first with blooms of Thunberg, Edwin Molyneux (two), Etoile de Lyon (two), Christine, Boule d'Or (two), Louis Boehmer (two), Triomphe de la rue des Châlets, Mrs. J. Wright, Sarah Owen, Lord Alcester, Alfred Salter, Miss M. A. Haggas, Violet Tomlin, Jeanne d'Arc, and Barbara. Mr. J. Voce, gardener to Alfred Williams, Esq., Fisherton, Salisbury, was second; his best blooms were Mrs. F. Jameson (two), Etoile de Lyon (two), and Mr. H. Cannell. The third going to Mr. W. Batten, of Basingstoke. In the class for twelve blooms, not less than six varieties (open only to those not employing a regular gardener), Messrs. John Kaines and W. Batten took first and second in order, both showing creditable blooms.

With twelve incurved, not less than eight varieties, Mr. Neville was first, staging good blooms of Princess of Wales (2), Mrs. S. Coleman, Miss Haggas (2), Hero of Stoke Newington, Queen of England (2), Empress of India, Golden Empress, and Mrs. Heale. Second, Mr. W. Robinson, his best blooms being Princess of Wales, Queen of England, Hero of Stoke Newington, Mrs. Norman Davis, and Lord Alcester. Mr. G. Tucker, gardener to Major W. P. Clarke, Bellfield, Trowbridge, was a good third. Twelve Japanese.—Mr. W. Robinson led the way with a very good stand, staging, amongst others, excellent blooms of Etoile de Lyon (2), Edwin Molyneux, Mrs. E. W. Clarke, Ralph Brocklebank, Condor, George Maelure, Thunberg, and Avalanche. Mr. George Irfield was a capital second, and Mr. Neville was a good third. Twelve blooms reflexed.—First, Mr. W. Robinson, his best blooms being Peach Christine (2), Golden Christine, Elsie, Cullingfordi (2), Mrs. Forsythe (2), Dr. Sharpe, and Cloth of Gold. Mr. G. Tucker was second. Only two lots were shown. Messrs. W. Robinson and G. Tucker were first and second in that order for twelve blooms of Anemone varieties with two good stands.

Ladies' classes were well represented. Vase of flowers for table.—First, Miss Agnes Flight, Twyford, Winchester, for an arrangement consisting of Chrysanthemums, Maidenhair Fern, and Grasses disposed to good advantage, with a shoot of *Ampelopsis Veitchi* with its brightly coloured leaves depending from the top of the centrepiece. Miss Lovibond, St. Anne Street, Salisbury, was second for an arrangement which, had a few more flowers been used in its composition, would have obtained a higher award. Miss Elsie L. King of Little Durnford, Salisbury, was third. For a basket of flowers, foliage, berries, &c., Miss Agnes Flight was a capital first with an exceedingly bright, fresh, and tasteful arrangement. Miss Ethel Mary Waters, Stratford Sub-Castle, Salisbury, was second; and Miss Elsie M. King was third. For three shoulder sprays Miss A. Flight secured first place for medium-sized neat arrangements, one—the middle one—being composed of Marie Louise Violets and small autumn leaves, with a base of *Adiantum cuneatum*, and the other two of small Tea Roses. Miss C. A. Mathews of Highfield, Salisbury, was second for rather too large arrangements, consisting of very suitable flowers—Roman Hyacinths, Niphetos Roses, and such like. Miss E. Burt of Winterbourne Daunstre, near Salisbury, was a capital third; her middle spray prevented her taking a higher award. For six buttonholes the prizes went to Miss C. A. Mathews, Miss Hodges of Dean, and Miss B. Flight, Winchester, in the order in which their names appear for good arrangements.

Fruit was shown well, but in very limited numbers. Mr. H. W. Ward, Longford Castle, Salisbury, was the only exhibitor in the class for a collection of six kinds, staging Black Alicante and Foster's Seedling Grapes, Webb's President Melon, Queen Pine, Beurré Clairgeau and King of the Pippin Apples. Mr. Chalk was the only competitor in the classes for Muscat of Alexandria and Black Alicante Grapes, staging large, well coloured bunches in both cases, the Muscats being particularly good. In the any other black class Mr. Ward took first with well coloured bunches of Lady Downe's; Mr. Chalk taking second with Gros Maroc. Mr. Ward was also first in the any other white class with Trebbiano. Apples and Pears were well shown by Mr. Thomas Hall, gardener to T. Montague, Esq., M.P., South Stoncham House, Southampton; and Mr. Fred Smith, gardener to the Bishop of Salisbury, The Palace, Salisbury, who took first and second in that order in the classes for three varieties of dessert and a like number of culinary Apples and dessert Pears. The three varieties of the latter staged by Mr. Hall were Pitmaston Duchess, Duchesse d'Angoulême, and Beurré



Diel. The six fruits of the latter were simply grand, being of immense size, uniform, and perfect in shape and colour. The Apples shown were (dessert) King of the Pippins, Cox's Orange Pippin, Harvey's Golden Russet; kitchen, Wellington Pippin, Flower of Kent, and Alfriston. Mr. Smith showing very fine fruits of Blenheim Orange, Lord Derby, and Warner's King.

Messrs. Keynes, Williams & Co. contributed a group of Chrysanthemums, &c., which added greatly to the general effect.

#### YORK.—NOVEMBER 18TH, 19TH, AND 20TH.

AN excellent Show was the twelfth autumn gathering, held, as usual, in the Fine Art Exhibition Building. It was in every way a success, the competition in most classes being keen, and the arrangements were admirably carried out by Mr. Lazenby, the Secretary.

Cut blooms were staged in large numbers. The principal class was for thirty-six, eighteen incurved, not less than twelve varieties, or more than two blooms of one variety, and the same of Japanese, and for which a first prize of £10 was offered. This was won by Mr. P. Blair, gardener to the Duke of Sutherland, Trentham, with medium-sized examples of the following—Lord Alcester, Alfred Salter (2), Golden Queen of England (2), John Salter, Empress of India (2), Golden Empress, Empress Eugénie, Mrs. Robinson King, Queen of England, Mrs. S. Coleman, Violet Tomlin, Princess of Wales, Novelty, Mrs. Heale, and John Doughty. Japanese: Etoile de Lyon (2), Mrs. C. Wheeler, Vivian Morel (2), Sunflower, M. E. A. Carrière, Avalanche, W. W. Coles, Puritan, Stanstead White, Golden Dragon, Baronne de Prailly, Mr. Ralph Brocklebank, Beauty of Castlewood, Vice-President Audiguier, Condor, and E. Molyneux. Second, Mr. W. H. Hotham, gardener to W. Robinson King, Esq., North Ferriby, Hull, with an even stand of blooms. Third, Mr. Folkard, gardener to Sir J. Walker, Sandhutton.

For twenty-four distinct, twelve to be incurved and the remainder Japanese, there were eight competitors, the best coming from Mr. Blair, —even blooms of Golden Empress, Empress of India, Mr. R. King, Queen of England, Prince Alfred, Golden Queen of England, Princess of Wales, John Salter, Mrs. W. Shipman, Camille Flammarion, Mr. Brunlees, and Refulgens. Japanese: Puritan, Mrs. C. Wheeler, Stanstead White, Etoile de Lyon, Madame J. Laing, Coronet, E. Molyneux, Sugarloaf, Stanstead Surprise, Thos. Stevenson, Madame Bac, and Avalanche. Mr. C. Lawton, gardener to Col. Broadley, Welton House, Brough, second, not well arranged. Messrs. Longton & Sons, Malton, third.

Four competed in the class for twelve incurved, the best blooms coming from Mr. Hotham; Mr. Folkard second; and Mr. G. Anderson, gardener to A. Milnthorpe, Esq., Tower Hill, Cattal, third. The best of six lots of twelve Japanese, distinct, came from Mr. Hotham, a bright lot. E. Molyneux, Puritan, Sunflower, Avalanche, Mrs. J. Wright, Etoile de Lyon, M. J. M. Piguy, Val d'Andorre, Sarah Owen, W. H. Lincoln, Madame J. Laing, and Boule d'Or. Mr. Short, gardener to A. Pease, Esq., Hummersknot, Darlington, second. Mr. Ketchell, gardener to C. H. Simpson, Esq., Moor Top House, Ackworth, third. The best six blooms any one variety came from Mr. Blair, fairly good ones of Avalanche; Mr. Ketchell second with Madame Bac; Mr. Short third with Puritan. The best reflexed in six distinct varieties were staged by Mr. Blair, solid high coloured blooms of leading kinds; Mr. Folkard second; Mr. Ketchell third. Single varieties were best shown by Mr. Ketchell. Anemone blooms were well represented in the first prize stand from Mr. Blair, followed by Mr. Ketchell and Mr. Short in the order given.

Six staged in the class for twelve bunches of cut flowers other than Chrysanthemums, the best coming from Mr. C. H. Letts, gardener to the Earl of Zetland, Aske Hall, Richmond, comprising *Cypripedium Spicerianum*, *Vanda coerulea*, *Vanda Amesiana*, and *Pancratium fragrans*; Mr. Blair second. Bouquets and baskets of Chrysanthemums were but moderate, and call for no further comment.

Plants were numerous, and the quality left little to be desired. For a group of Chrysanthemums and foliage plants arranged in a circle there were six collections, which produced a very fine display. Mr. Dawe, gardener to Dr. Baker, The Friend's Retreat, York, was placed first with a bright assortment; Mr. McIntosh, gardener to J. T. Hingston, Esq., Clifton, York, second with a somewhat crowded arrangement; Mr. G. Slater, gardener to the Right Hon. The Lord Mayor, third. For a group of Chrysanthemums only, to which may be added a margin of foliage plants, Mr. Everard, gardener to Mrs. Crutch, Holgate Lodge, York, was first with a solid bank of plants carrying good blooms and foliage; second, Mr. W. Boston, Calthorpe, Bedale.

Japanese Chrysanthemum plants were well shown, being well flowered and not too stiffly trained, the best four coming from Mr. S. Smith, Beverley; especially good was Val d'Andorre, Madame de Sevin, Etoile de Lyon, and Sunflower. The second position was occupied by Mr. Everard. The best two varieties were Dr. Macary and Val d'Andorre from Mr. S. Smith, Mr. Everard second. Reflexed varieties were also well shown by Mr. Vear, gardener to Miss Steward, Bishopthorpe, York, who obtained the premier award. Incurved kinds were here better seen than in many exhibitions, being freely grown and well flowered. The best four distinct kinds coming from Mr. Everard were Lord Wolsley, Mrs. G. Rundle, Jardin des Plantes, and Prince Alfred; Mr. S. Smith second. Pompons were well shown by Mr. S. Smith, being freely flowered and not stiffly trained.

A class was provided for six plants in 7-inch pots, suitable for decorative purposes, and excellent specimens were staged by Mr. Everard. Primulas were numerous and good. The following class was for ladies

only. The best dressed table of 8 feet by 4 feet with Chrysanthemums and any foliage created much interest. Miss Blanchet, 3, Muser Street, York, was awarded premier honours for a lightly arranged table. Mrs. Nutbrown, Nunnery Lane, York, second.

Fruit was sparingly staged but of good quality, Grapes being the chief feature. For six bunches in three varieties Mr. C. H. Letts won easily with grand examples of Muscat of Alexandria, Gros Guillaume and Alicante. Second, Mr. D. Dickinson, gardener to W. B. Richardson, Esq., Elm Bank, York; Mr. McIntosh third. For two bunches of black, any variety, Mr. G. Lee, gardener to Sir J. Cowell, Bart., Clifton Castle, Bedale, first with Gros Colman, Mr. Dickinson second with Alicante, nine competing. The last named had the best white Grapes in two bunches of Muscat of Alexandria, Mr. J. Smallwood, gardener to H. Leetham, Esq., Burnholme, having the second award.

The Show was attended by 10,000 persons, the receipts at the doors being nearly £240.



FIG. 86.—*DESMODIUM PENDULIFLORUM*. (See page 446.)

#### BRISTOL.—NOVEMBER 18TH AND 19TH.

AN excellent all-round display was made at this, the twenty-eighth annual Exhibition of the Clifton Chrysanthemum Society, and it was altogether a great success, the Colston Hall being taxed to its utmost to provide room for the exhibits without unduly encroaching upon the space required for the thousands of visitors who patronised the Show.

Trained Chrysanthemum plants are not so extensively shown as of old, but there was enough of them, good cultural skill being displayed by several growers. Mr. J. Ayres, gardener to T. W. Gibson, Esq., was successful with Chrysanthemum plants generally, taking among other prizes firsts for six large flowered incurved varieties, three Japanese varieties, three standard large flowered varieties, and for several single specimens. He also secured the silver medal of the N.C.S. for a grandly flowered specimen of incurved Mrs. Dixon. Messrs. T. M. Miller, Atwell, J. West and H. St. Vincent Ames were also successful with trained plants. Mr. J. Dale had a first prize for a highly credit-



able group of Chrysanthemums, Mr. J. Saunders being second. Equal first prizes were awarded to Messrs. Ayres and H. St. Vincent Ames for a group of Chrysanthemums arranged with fine-foliaged plants and Ferns, Mr. T. M. Miller being third. There was also a class for a group of miscellaneous plants arranged for effect, Chrysanthemums being excluded, and in this instance Mr. Ayres was first, his plants being prettily arranged though of far less value than the second prize group shown by Mr. J. Crispin. The last named had some grandly flowered Orchids in his group, but these sadly wanted a good groundwork of Ferns. Various other classes were provided for flowering and fine-foliaged plants, all of which were remarkably well filled, the principal prizewinners being Messrs. T. Tagart, T. W. Gibson, H. St. V. Ames, J. H. Lockley, J. B. Bain, J. Crispin, G. White, A. W. Summers, J. Saunders, R. Cripps, and W. K. Waite.

The show of cut blooms was one of the finest ever seen at Bristol, but Messrs. Drover of Fareham must have sadly damped the hopes of numerous exhibitors, as they took the first prizes in all the principal classes. The premier class, or that for forty-eight blooms, to consist of equal numbers of Japanese and incurved varieties, the first prize being £10, only attracted three competitors—viz., Messrs. Drover, G. Runnales, and J. Austin, Witley Court, who took the prizes in the order named. Messrs. Drover's blooms were remarkable for their great depth and solidity. The Japanese were Etoile de Lyon (2), Lady Lawrence, C. W. Lincoln, Sunflower, W. W. Coles, Stanstead White (2), Condor (2), Mrs. Wheeler (2), M. Bernard (2), Mrs. J. Clarke, M. E. A. Carrière, E. Molyneux, Boule d'Or, Sarah Owen, Mrs. Cannell, Carew Underwood, Louis Boehmer, and Mrs. F. Jameson; while the incurved consisted of Alfred Salter (2), Golden Empress (2), Violet Tomlin, Lord Alcester (2), Mrs. S. Coleman, Princess of Wales, Robert Cannell, Empress of India (2), Lady Dorothy (2), Mrs. N. Davis, John Lambert (2), Princess of Teek, Beauty, Miss Haggas, C. Gibson, Hero of Stoke Newington, and Jeanne d'Arc. In Mr. Runnales' stand were fine blooms of Japanese Louis Boehmer, F. A. Davis, A. H. Neve, Condor, and E. Molyneux. Mr. Austin also had a capital lot of both Japanese and incurved varieties. Messrs. Drover were well first for twenty-four incurved blooms, not less than eighteen varieties, these comprising John Lambert, A. Salter, Empress of India, Golden Empress, Lord Alcester, Princess of Teek, Nonpareil, C. Gibson, Mrs. N. Davis, Lady Dorothy, Violet Tomlin, Beauty, Robert Cannell, Mrs. S. Coleman, Princess of Wales, Lord Eversley, and Hero of Stoke Newington. Mr. Runnales was again a good second, and Mr. G. H. Copp third. In a corresponding class for Japanese varieties the competition was very keen; but Messrs. Drover were irresistible, and were first with fine blooms of Etoile de Lyon, Pelican, Baronne de Prailly, Sunflower, Mrs. C. W. Wheeler, Meg Merrilies, Stanstead White, M. Bernard, Mrs. F. Jameson, E. Molyneux, A. W. Lincoln, Carew Underwood, Lady Lawrence, Boule d'Or, W. W. Coles, Mrs. J. Clarke, Condor, and Louis Boehmer. Once more Mr. Runnales was a good second, and Mr. A. Cole was third. The best twelve blooms of Japanese varieties were shown by Messrs. Drover, Mr. Copp being second, and Mr. T. P. W. Butt third—a good class. For twelve blooms large flowered varieties Mr. Copp took the lead, Mr. T. P. Butt being second, and Mr. J. Baylis third. Mr. A. G. Hayman was first for six incurved varieties, Mr. W. P. M. Baker second, and Mr. J. Daw third. A special prize offered for six blooms of Mrs. Alpheus Hardy was won by Messrs. Drover, who had a beautiful stand of this delicate variety, and they were also the winners of a special prize for Louis Boehmer. Mr. J. Aplin, Gloucester, showed well in the latter and several other classes.

Bouquets, sprays, wreaths, and vases are always well shown at Bristol, the competition being remarkably close and good this year. Mr. C. Winstone, Clifton, was very successful in these classes, as also were Messrs. E. S. Cole & Son, Bath, other prizewinners being Messrs. E. T. Hill, F. W. Haskins, and A. Deedes. Special classes were provided for amateurs, and several of these distinguished themselves, not only with baskets of flowers, but also with cut blooms of Chrysanthemums, Mr. H. W. Gillingham being particularly successful with the latter in this his first attempt.

Fruit was capitally shown, a large number of classes being provided for everything in season. Mr. W. Nash, Badminton, was well first for a collection of six varieties, having good Alicante and Muscat of Alexandria Grapes, a Melon, Medlars, Pears, and Apples. Mr. J. Lloyd, Langport, was a very good second. Grapes were particularly well represented, the quality throughout being good, though much better Muscats were shown last year. The prizetakers were Captain Bayley, Mr. A. Cole, Mr. T. Jones, Mr. W. Marsh, Mr. W. Iggulden, Mr. J. Gibson, Mr. W. Nash, Mr. J. Down, Mr. J. Lloyd, Mr. J. Dole, and Mr. T. H. Hill. In other classes Messrs. A. P. Vivian, W. G. Pragnell, Sherborne Castle; J. Gibson, H. St. V. Ames, W. Nash, J. Bradner, E. Hall, Runnales, Pragnell, J. H. Virgo, and Deedes were the prizetakers. The most successful with vegetables were Messrs. Ames, Evry, E. T. Hill, D. A. Thomas, and J. C. Wall.

There were several noteworthy non-competitors' exhibits, foremost among these being some grand Chinese Primulas contributed by Messrs. Sutton & Sons, Reading. All their varieties were well represented, including the novel Moss Curled Advance, and Double Lilae. Messrs. Suttons also had a remarkably good display of Potatoes, many novelties, as well as older varieties of their own raising. Messrs. Garraway & Co., Durdham Down Nursery, Clifton, sent a large number of Palms and other plants, and also exhibited a fine collection of hardy fruit. Messrs. Parker & Sons, Clifton, gained much credit for a capital display of wreaths, bouquets, and baskets of flowers, the arrangement of these being somewhat novel.

#### HULL.—NOVEMBER 18TH AND 19TH.

ALTHOUGH, as in the case of many exhibitions this year, the tables were not quite so crowded with cut blooms as on the last occasion, yet the Hull Show lost nothing in effect on that account, while in high average quality it fully equalled, and probably exceeded, any previous display held in the busy town. It may fairly be called a town of Chrysanthemum lovers, as it would be difficult to find such a numerous and influential company assemble elsewhere immediately the doors are open to the public. The Exhibition was opened by the Mayor, who said "he felt sure that, under the able management of the Chairman and various officials, the Chrysanthemum Society would continue to be what it was at the present time—one of the standing institutions of Hull."

The compliment paid to the officials was well merited, for the Committee is composed of strong men who work zealously, harmoniously, and successfully. Everything was ready for the Judges at ten o'clock, and about 2 P.M. each was presented with a copy of the programme and awards neatly bound, with his name inscribed in gilt letters; and no doubt Messrs. G. Gordon, E. Molyneux, and J. Wright will preserve the copies as pleasant mementoes of a pleasant gathering, and as examples of what can be done by prompt action on well-considered lines.

It is only the record of a simple truth to say that the Hull directorate stand right in the forefront as expert managers of Chrysanthemum shows, and thus set an example that might with advantage be followed by several societies in the kingdom. Lateness in commencing the work of judging necessarily involves too rapid action, and this is the cause of more mistakes and disputations than everything else put together. At the Show in question not a hitch occurred, and even the losers of prizes were satisfied, well and worthily as they competed. With true Yorkshire persistency they intend, if possible, being in the charmed circle next time, and it will be no easy task to keep some of them out of it.

*Groups.*—The judging commenced with the groups arranged in semi-circles, occupying a space of 100 square feet. The first prize was a challenge cup, value 20 guineas, presented by a generous Vice-Chairman of the Society, George Bohn, Esq., with £6 added, the remaining prizes being £5, £4, and £2 respectively. The competition was splendid, three out of the five groups being of superlative quality. Foliage plants are admissible with the Chrysanthemums, and contribute materially to the beauty of the arrangements. Last year Mr. Geo. Wilson, gardener to James Reekitt, Esq., Swanland Manor, Brough, made a departure from the formal method of association, and easily won the first prize with a picturesque arrangement. No doubt thinking his idea would be followed, he struck out another this year, and won again, against strong opposing collections. He has only to win once more to retain the trophy, and he will have to do his best to succeed. His method of arrangement consisted in a steeply arranged background of Chrysanthemums, ranging from 7 feet in height down to about 18 inches, leaving a space from the latter of nearly 3 feet to the margin of the group. This was occupied with tall single-stemmed Crotons at wide intervals, so that their full beauty was displayed. Bright Dracaenas were also tastefully employed, and a groundwork of procumbent foliage plants, with a few very dwarf Chrysanthemums in moss. The tall Chrysanthemums were remarkable for rich foliage and magnificent blooms, and the interspersed of Palms and Eulalias was in the best of taste. There was a total absence of crowding, and the whole group represented a masterpiece in the artistic association of plants and flowers. Mr. G. Cottam, jun., Alma Gardens, Cottingham, was, after much consideration, adjudged the second prize. It was what may be termed a twin group, the recess which extended back nearly to the wall being furnished with low foliage plants and very dwarf Chrysanthemums, the margin being neat, and well finished with Isolepis and Panicums. Mr. E. Wright, gardener to D. Wilson, Esq., was an extremely close third. His plants were arranged in a less broken and more formal style, but with great taste and they were of superb quality. It was the best group of its kind seen at Hull, and in its way would be difficult to excel. Mr. G. Coates, gardener to W. Wheatley, Esq., Anlaby Road, Hull, was the remaining prizewinner, and well deserved the position he won.

Now that groups of plants are under notice a charming contribution of Orchids and Poinsettias mainly, by David Wilson, Esq., may be appropriately referred to. The Cyripediums were of rare excellence, while valuable Cattleyas, Oncidium, and Odontoglossums lent richness to the display, Calanthes contributing elegance, Poinsettias brilliancy; the whole being displayed to the best advantage by the relief afforded by Isolepis and Ferns. This group was a great centre of attraction in the hall, and having regard to the high quality of the plants, and their effective arrangement by Mr. E. Wright, the Judges felt they could do no less than recommend the award of a silver medal.

*Specimen Plants.*—At the first Hull Show the plants exhibited were perhaps the worst prizewinners in the kingdom, but the trained incurved that win prizes there now certainly rank amongst the best that are seen anywhere. Mr. J. S. Graham, gardener to G. Lawson, Esq., Newland Grove, was the first prizewinner in all the classes, and his plants were superb. Besides the money prizes he won three medals and deserved them all. Mr. J. Hemming, gardener to E. Leatham, Esq., was the next most successful competitor; Mr. W. Mason, gardener to Major Dibbe following. Very fine bush-grown plants were shown, in one class the prizes falling to Mr. Thomas Smith, Beverley, Mr. Hemming and Mr. H. Taylor in the order named; in another class, Messrs. A. Clarke, R. Falconer Jameson, and H. Harland occupying the same relative positions. For cut-back plants, the first prize, including the N.C.S. medal, was well won by Mr. J. P. Leadbetter, gardener to A. Wilson, Esq.,



Tranby Croft. The remaining plants must be passed or there will be no space to refer to the next important section of the Show.

*Cut Blooms.*—These were handsomely provided for in the twenty-five classes set apart for them, and a splendid display was the result. This year a change was made in the composition of the classes, but it did not increase the competition. Previously the principal class was for incurved and Japanese varieties combined, but this year first prizes of £10 were offered in each section. For twenty-four blooms, the incurved were to be in not less than eighteen varieties, and not more than two blooms of one variety; in the Japanese section all were to be distinct. In the incurved class five competed, the winner of the first prize being Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley Cottage, Croydon, by the narrow majority of two and a half points. The blooms were not extra large, but solid, fresh, and well staged. The varieties were Golden Queen of England (2), Mrs. S. Coleman (2), Golden Empress of India (2), Lord Alcester (2), Queen of England, Miss M. Haggas (2), Alfred Salter, Princess of Wales (2), Jeanne d'Are, Empress of India, Lady Dorothy, Barbara, Princess Teck, Mrs. N. Davis, John Salter, Hero of Stoke Newington, Mrs. Shipman, and Princess Beatrice. Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was second with larger blooms, but not so solid nor so well staged. Mr. J. P. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hull, was a close third. In the Japanese class five competed, the best coming from Mr. G. Wilson, gardener to James Reekitt, Esq., large, solid, fresh blooms, staged in capital style, the stands being a trifle larger than the ordinary size, which added to the appearance of the blooms. The names were Vivian Morel, M. Bernard, Boule d'Or, Criterion, Stanstead White, W. W. Colcs, Puritan, Mrs. C. Wheeler, Etoile de Lyon, Mrs. F. Jameson, Sunflower, Mdme. C. Audiguier, W. H. Lincoln, Avalanche, Edwin Molyneux, Golden Dragon, Meg Merrilies, M. J. M. Pigny, Mdme. Laing, Sarah Owen, J. Délaux, G. Atkinson, Mdme. Baco, and Coronet. Mr. Shoesmith was a close second; and Mr. E. Wright, gardener to D. Wilson, Esq., a good third.

For twelve incurved, distinct, four competed, Mr. F. Thornton, gardener to C. E. Marfleet, Esq., Boothby Hall, Lincoln, was a somewhat easy first with well staged blooms of Alfred Salter, Lord Wolseley, Lord Alcester, Prince Alfred, Golden Empress, Miss M. A. Haggas, Cherub, Jardin des Plantes, Golden Beverley, John Salter, Nil Desperandum, and Mr. Brunlees. Mr. Shoesmith was second, and Mr. Leadbetter third. For twelve Japanese, distinct, Mr. F. Thornton was placed first with a capital stand of blooms of the following varieties:—Condor, M. Bernard, Ralph Brocklebank, Etoile de Lyon, Sunflower, Avalanche, Madame Baco, Sarah Owen, Madame J. Laing, J. Délaux, Criterion, and Mdme. Lacroix. Second, Mr. G. Wilson. Third, Mr. Shoesmith. Class 5 was for twelve blooms, Japanese, to be staged with not less than 8 inches of stem above the stands, and with foliage as grown. The seven competitors made a capital display. Mr. G. Wilson was an easy first, the blooms being large, of good form, the foliage excellent, and staging neat. Mr. E. Wright was second, and Mr. Leadbetter third. An interesting display was made by the five competitors in the class for twelve blooms of any white variety, but not more than three blooms of one variety. Mr. G. Appleton, gardener to C. H. Johnson, Esq., The Hall, Thorngumbald, Hull, received the premier award for the following in good order:—Fair Maid of Guernsey, Stanstead White, Avalanche, M. J. M. Pigny, Mdme. Lacroix, and Bouquet de Dame. Second, Mr. W. Welton, gardener to G. A. Carr, Esq., Waltham Grove, Grimsby. Third, Mr. Goodacre.

Anemone-flowered varieties were staged by eleven competitors, the bulk of them in first-rate condition. Mr. G. E. Smith, Floral Cottage, Paull, was first, the following being the principal varieties:—Lady Margaret, Margaret Solleville, Gladys Spaulding, Acquisition, Sabine, Madame Robert Owen, La Marguerite, Gluck, and J. Thorpe, jun. Second, Mr. R. Walker, gardener to Colonel Stacey Clitheroe, Hotham Hall, Brough. Third, Mr. F. Mason, gardener to G. Bohn, Esq., Tranby Park, Hessle. A special certificate was awarded to the first prize stand, so good were they in point of quality. Reflexed varieties were well shown, eight competed. Mr. G. Appleton was first (also granted a certificate) with Cloth of Gold, King of Crimson, Felicity, Cullingfordi, Irene, Zelia, Peach Christine, James Carter, Golden Christine, and Mrs. Forsythe. Mr. G. E. Smith second; and Mr. Robert Dalby, gardener to A. B. Beckett, Esq., Westwood, Beverley, third. Class 9 was devoted to varieties possessing the most scent. Mr. H. Harland was first, Mr. A. W. Stanley second, and Mr. R. Walker third. Pompons were fairly well shown. The best twelve bunches with foliage, in not less than six varieties, were contributed by Mr. G. E. Smith; second, Mr. J. Hemming. Single varieties were moderately well staged. Mr. G. E. Smith had the best stand; Mr. H. Harland closely following.

The following classes were open to those not competing in previous classes. For twelve incurved, distinct, there were six entries. Mr. G. Appleton was a good first; Mr. W. H. Clark, gardener to Lieut.-Col. James Reed, Westland Corner, Bargate, Grimsby, second; and Mr. W. Welton third. For twelve incurved, in not less than nine varieties, Mr. J. Appleton won the first place with medium sized blooms. Mr. R. Walker second; Mr. Weldon third. In the class for twelve Japanese, distinct, Mr. G. Appleton was easily first; Mr. G. B. Burrows, gardener to Sir H. Bennett, Westlands, Grimsby, second; and Mr. R. Walker third. For twelve blooms, Japanese, in not less than nine varieties, Mr. G. Appleton succeeded in taking the premier award. Mr. J. Bridle, gardener to R. F. Jameson, Esq., Hessle, Hull, second. Amateurs staged a wonderfully fine lot of blooms in the classes set apart for them.

The prize for the best incurved bloom in the Show was won by Mr. R. Falconer Jameson with a firm symmetrical example of Lord

Alcester; the best Japanese being W. W. Coles, but we have no record of the name of the exhibitor.

*Ladies' classes.*—A piece of challenge plate was offered, in addition to the first prize of £4 4s., for a dessert table 8 feet by 4 feet, laid out for six persons with Chrysanthemums and any kind of foliage; six competed. Miss Lily Wheatley, 7, Milton Terrace, Anlaby Road, Hull, was adjudged premier honours for a table harmoniously arranged; Miss Muriel Ayre, The Cottage, Hessle, second; Mr. Frank W. Jameson, Runswick House, Prince's Avenue, Hull, third. Miss Lily Wheatley was the most successful exhibitor of a hand bouquet of Chrysanthemums with a pleasing arrangement; Miss Elsie Todd, Tranby Park, Hessle, following. Miss P. Munby, Spring Villa, Anlaby, Hull, had the best arranged dress spray, and Miss E. M. Harland the most tasteful arrangement of cut blooms of Chrysanthemums.

The N.C.S. silver medal was offered, along with £3, as first prize for a table 12 feet by 3 feet of bouquets, wreaths, sprays, and buttonholes, or other floral arrangements with Chrysanthemums and any kind of foliage or grasses; seven entered, making a magnificent display. Messrs. Perkins & Sons, Coventry, easily secured the leading position with one of their best exhibits; Mr. C. Colebrook, Royal Nurseries, Grimsby, second; Mr. G. Cottam, jun., Alma Gardens, Cottingham, third.

We learn that the total number of cut blooms staged at the Show was 2311; the total number of visitors over 10,000, including 737 charity children with their teachers, admitted free on the invitation of the Committee. The receipts at the doors slightly exceeded those of last year.

A meeting was held on the evening of the first day of the Show, Mr. J. Wright presiding. Mr. E. Molyneux read a practical and pithy paper on growing and showing Chrysanthemums, which was highly appreciated. The attendance was very large, the discussion instructive, and the gathering a distinct success.

#### GRASSENDALE AND AIGBURTH.

THE second Exhibition in connection with this newly formed Society was held on Saturday last in the Grassendale Parish Room. This is the first year of the Society's existence, but from the persevering way in which the President, A. L. Jones, Esq., and the Committee are working, it will be hard to say to what dimensions it may assume in the future, as funds are readily forthcoming.

The schedule contained twenty-nine classes, fourteen for plants, six for cut blooms, and nine for fruit. The plants were arranged round the room, and the fruit on a table in the centre of the room. Chrysanthemums in pots were only moderately shown, the first for three being taken by Mr. J. Madeley, gardener to W. C. Atkinson, Esq.; Mr. J. Lowndes, gardener to S. S. Parker, Esq., Aigburth, second; and Mr. J. Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth, third. For a single plant Mr. J. Lowndes was first with Val d'Andorre. There were sixteen entries for cut blooms, which were scarcely up to the standard. For twelve incurved and twelve Japanese, Mr. J. Agnew, gardener to Mrs. Watts, was first, the best being Japanese Etoile de Lyon, Stanstead White, Avalanche, Sarah Owen, and Sunflower, whilst of the incurved the Queen family were the best. Mr. J. Lowndes was second, but the flowers were not staged satisfactorily.

In other classes the prizetakers were Messrs. J. Bounds; Jenkins, gardener to E. Tinne, Esq.; Peers, gardener to C. E. Terry, Esq.; Kelly, gardener to R. Singlehurst, Esq.; J. Harrison, gardener to Mrs. W. G. Bateson, Allerton; C. Evans, gardener to W. Maxwell, Esq.; J. Lowndes, and W. G. Davey.

Grapes were of very fair quality; Mr. Kelly first, Mr. W. G. Davey second, Mr. J. Bounds third, all staging Alicante in the class for black, and Mr. J. Bounds and Mr. W. G. Davey in the white with Museat of Alexandria. Mr. J. Lowndes was first for four dishes of Pears with Beurré Diel, Beurré Clairgeau, Pitmaston, and Marie Louise. Second Mr. J. Kelly, the latter being first for a dish of stewing Pears and Mr. W. G. Davey for dessert; Mr. Davey winning for one dish of dessert. In other classes the prizes went to Messrs. Lowndes, J. Bounds, Kelly, J. Agnew, and W. G. Davey. Messrs. R. P. Ker & Son were highly commended for a group of plants, as was also Mr. J. Bounds. Extra prizes were given to Mr. J. Bounds and Mr. J. Lowndes for groups of Chrysanthemums, &c., and Mr. J. Kelly for Cyclamens. The President, A. L. Jones, Esq., has signified his intention of presenting a silver cup, value 10 guineas, for cut blooms next season, when the entries will no doubt be considerably increased.

#### SUTTON COLDFIELD.

THE Royal old town of Sutton Coldfield has a history of its own, it having been a long number of years ago a residence of one or more of our earlier monarchs, and the centre of their hunting ground, for in the very extensive forest in those days the wild boar and other objects of the hunter's regard were to be found.

Sutton Park, with its fine woods and host of British plants, is now a great resort for the Birmingham people, and its 800 acres is now under the care of Mr. Morewood, who was formerly the head gardener at Canwood, a fine old place near to Sutton Coldfield, which is but a few miles run from Birmingham. A gardeners' Association exists here, an offshoot from the Birmingham parent Society, and it holds its annual Chrysanthemum Exhibition in the Town Hall. This year the Show was very attractive with some admirable groups, plants, and flowers.

In the class for larger groups three lots were staged, the first prize being well won by Mr. E. Pears, gardener to Mrs. Jerome, with a really superb group of well-grown and well-flowered plants, in which the colours were artistically arranged in small groups. The second and third prize groups were fine also. Smaller groups with foliage plants were staged in another class, and made an attractive display.



Plants in pots, of which there was a good assortment, were all "cut-backs" trained upright, and not at all formally; some were quite 3 feet through, admirably grown, dwarf, and well flowered. They were much preferred to the old system of tying the plants down closely into a formal shape. Mr. Henry Warren, gardener to G. H. Lloyd, Esq., Sutton, was first, and Mrs. Jerome second, both lots being exceptionally good. In the class for twenty-four cut blooms, twelve incurved and twelve Japanese, Mr. J. Padbury, gardener to F. Cooke, Esq., was first; Mr. Jeff, gardener to H. E. Yates, Esq., second; and Mr. Phillips, gardener to the Right Rev. Bishop Ilesley, third. The other classes for cut blooms were also well filled. Mr. Yates's first prize twelve *Primula*s were the finest ever seen at the Sutton Shows, well-grown plants of the Birmingham varieties. A. W. Wills, Esq., J.P., sent a collection of plants, including good specimens of *Cypripedium Spicerianum* and *Oncidium prætextum*, some excellent specimen *Eucharis*, a fine *Anthurium crystallinum*, and a stand of fine *Chrysanthemum* blooms. Mr. T. B. Grove, nurseryman, also sent an excellent group of plants, filling the stage across the hall.

WE again find it impossible to publish the whole of the reports of *Chrysanthemum* shows which have been obligingly sent, and two or three which arrived late must be held over till next week.



#### FRUIT FORCING.

**FIGS.—Earliest Trees in Pots.**—To have ripe fruit at the end of April or early in May the trees must be started early in December; therefore dress them with an insecticide, applying it with a brush to every part, care being taken not to rub off the immature fruits, nor damage the points of the shoots. The trees should be placed on loose brickwork pillars, so that they may not settle with the fermenting material, which being placed in the pit and brought up about the pots will afford a genial warmth, but the heat about the pots must not exceed 65° until the trees are fairly in growth. The top heat may be 50° to 55° at night, and 65° by day, the trees and house being damped in the morning of fine days, and again early in the afternoon, but it must be done sufficiently early to allow of the trees to become fairly dry before night. Water must be given at the roots to keep the soil thoroughly moist and about the same temperature as that of the heat about the pots. Avoid a very close moist atmosphere, the moisture arising from the fermenting material, with an occasional damping of available surfaces, as paths, &c., will be sufficient on dull days.

**PINES.—Successional Plants.**—Span or three-quarter span-roofed pits or small houses properly ventilated are the most suitable for small stock, which at this season often suffer irreparable injury from being kept too close and warm, the plants being drawn and weakly. A temperature of 60° at night and 65° in the daytime will keep all young stock gently progressing, admitting a little air at 65° at the top of the house leaving it on all day, but not to lower the temperature below that point, and when the sun raises the temperature to 75° a free circulation of air should be allowed. The bottom heat should be kept steady at 80°. Avoid anything approaching to a damp atmosphere, moderate humidity only is needed at this time of year. Apply water only when the plants become dry, and then afford a thorough supply of weak liquid manure. It is essential that the plants be kept well up to the glass and be given plenty of room.

**Suckers.**—Those ready for starting now should be kept until March, and if there is likely to be a scarcity of suckers any recently potted may be retained in 5-inch pots, affording them a light position in a rather moist pit, with a temperature of 55° at night and a slight bottom heat, keeping them rather dry. Take every opportunity of collecting leaves whilst dry, Oak and Beech being the best, and whenever a favourable opportunity offers push forward whatever may be necessary in the renewing or augmenting the fermenting beds, effecting this without giving a check to the plants.

**CUCUMBERS.**—Winter fruiting Cucumbers are frequent failures, and due to a deficiency of heating surface combined with an arid atmosphere. Sharp weather necessitates brisk firing, which, where there is little piping, dries the atmosphere, causing excessive evaporation from the foliage, and it becomes crippled in consequence; the fruits also are stunted and swell indifferently, and where the pipes are in close proximity to the roots the soil is dried too much, and the growth is consequently not healthy. Heat radiated at a high temperature is not good for vegetation, and when the water in the pipes has to be kept near boiling point failure is almost inevitable, besides it is highly wasteful of fuel. Admit air very carefully, yet afford a little whenever a favourable opportunity offers, excluding it, however, when the external air is sharp and cold, turning off top heat when the sun is very bright and likely to raise the temperature much over 80°. In bright weather damp the house morning and afternoon, closing early, but be careful not to wet the embryo fruit, for water hanging from it will cause decay. Water will be needed at the roots about twice a week, always affording it equal in

temperature to that of the bed. Maintain a night temperature of 60° to 65°, 5° less on cold nights, and 70° to 75° by day, advancing 5°, 10°, or 15° from sun heat, and endeavour to enclose as much sun heat as safe.

The plants from the August sowing planted out in September have covered the trellis and are fruiting, but this must be allowed very moderately if the plants are expected to afford full supplies at a later period, and unless there is undue vigour in the plants they should not be allowed to fruit for a few weeks, especially if they are wanted to supply fruit plentifully at the new year and forward. Attend frequently to stopping and thinning, also tying the shoots, avoiding overcrowding, as stout foliage better endures the trying ordeal of wintry weather. Canker is best held in check by lessened moisture and quicklime rubbed well into the affected parts. Removing old useless leaves is good for the plants, and may keep off attacks of red spider; but if that pest appears sponge the infested leaves carefully with a solution of soft soap, 2 ozs. to the gallon of water.

Mildew may be kept under by dusting the infested parts with flowers of sulphur, or brushing the pipes with sulphur brought to the consistency of cream with skim milk. Bisulphide of calcium and sulphide of potassium, half ounce to a gallon of water, destroys mildew, but has the disadvantage of discolouring the paint and causing a disagreeable smell. Carbonate of copper, 1 oz. to 12½ gallons of water, destroys mildew and other fungi, using it as a spray only, and keeping agitated whilst being applied. Aphides succumb to fumigation with tobacco, but the smoke must be cool and the fumigation repeated two or three times on consecutive evenings.

**Strawberries in Pots.**—A start must be made early in next month to have fruit ripe early in March. La Grosse Sucrée has been our standard early forcing variety for many years, but John Ruskin promises to lead in the matter of early forcing, and it is recommended for trial. Vicomtesse Hericart de Thury usually shows and sets abundance of fruits, and these, if well thinned, attain a good size. Princess Frederick William has almost disappeared from cultivation, from not being satisfactory outside; but for early forcing it has done excellent service, being a capital cropper, bright in colour, and with a pleasing aroma. Noble and Auguste Nicaise have fine looking fruits, and brought on slowly may be started with the preceding varieties, assigning them positions on shelves in Peach houses. The others to fruit at the time mentioned will need forwarding in a Strawberry house. The plants to be introduced to the Strawberry house, vinery, or Peach house should have the drainage seen to, rectifying it if defective, making sure that it is free, removing the loose surface soil, and supplying a top-dressing of horse droppings rubbed through a half-inch sieve, adding a good handful of steamed bonemeal to every peck, then watering it with a rose watering-pot, so as to bring into a moist state, and consolidate the material, otherwise it washes off in watering the plants. Pots may then be placed in position after removing the decayed leaves only, taking care to keep the soil moist, for dry soil causes the loss of roots; therefore rap the pots, and if any ring dry—a practised hand readily detecting by the sound which plants are needing water—afford a thorough supply.

#### THE KITCHEN GARDEN.

**SEAKALE.**—This again is in great demand during December and throughout the rest of the winter and spring months. Strong young roots ought always to be bought in, or, better still, prepared for lifting, the preference in all cases being given to the improved variety known as the Lily White, this having no purple tips, being also the most mildly flavoured. Mushroom houses are of the greatest service in forwarding and blanching Seakale; but at this early date progress is slow, high temperatures not being maintained, as these are most injurious to the Mushroom beds. They ought, therefore, to be depended upon for producing successional crops, only one or more scores of roots, according to the resources or demands of the place, being bedded in thickly in rich soil and kept moist, warm, and dark. In order to have Seakale more quickly lift a number of straight young roots, lightly shortening the coarsest thongs, and then pack them thickly in large flower pots, the crowns only just peeping through the surface of the soil, and which ought to be somewhat moist and rich that is used. Two or more of these pots may be set at a time either on or close up to hot-water pipes in a forcing house, inverting other large pots over them and closely stopping drainage holes and crevices with moss so as to effectually exclude the light. When the soil is getting somewhat dry moisten with warm water, or, better still, liquid manure, and thus well treated, all the crowns may be cut over twice, a good and early return for the trouble taken. Strong roots grouped for covering with pots or boxes where they now are and forced by means of a well-prepared hotbed of manure and leaves placed over them, move very slowly at this early date, but they usually produce extra fine and very succulent well-blanching growths. Such heaps of heating material, enough being got together to cover several pots at one time, must be watched very closely, being liable to get quite cold in cold windy weather, and to become dangerously hot in warm muggy weather.

**RHUBARB.**—Mushroom houses and warm cellars are very handy for forcing Rhubarb, but it can be brought on more rapidly in confined chambers or near to hot-water pipes in forcing houses. Lift large clumps of early varieties, and surround these with good moist soil, the latter precaution being most necessary where a dry heat is kept up and least needed in cellars. Extra fine stalks are more surely if more slowly obtained by forcing the clumps where they now are. Cover with inverted cement or flour tubs, substituting lids for the ordinary bottoms, and mound up several of these at a time with heating material, taking away from or adding to this according to the rise and fall of the heat.



## PLANT HOUSES.

*The Forcing House.*—Where large quantities of plants are forced into flower it is necessary to devote a structure for this purpose. Where practicable select one in which a hotbed of litter and leaves can be made, for the gentle moist heat that rises from these materials are beneficial to the plants, and bring them forward rapidly into bloom. The materials for this purpose should be composed of about equal quantities of leaves—Oak or Beech are best—and litter, the former to be perfectly dry. They may be mixed together outside and thrown into a heap, so that if wet weather follows it will not penetrate any depth into the material. If turned two or three times while outside it will soon be in condition after it is placed in the house for standing plants upon. Be careful, however, not to stand upon it plants that might be injured while strong ammonia is being thrown off. When the bed is ready the house may be filled with the plants required. Employ no fire heat at first until the plants are starting, when the temperature may be gradually increased.

*Azaleas.*—A few plants of early flowering varieties may be introduced into the forcing house as soon as it is ready for them. Do not plunge the pots of these plants, but merely stand them on the top of the fermenting material. Syringe lightly with tepid water each morning when fine.

*Lilacs* that have lost their leaves and have been exposed to light frost may be plunged into the fermenting material. These plants will bear brisk heat. If the plants have been confined in pots, and are well ripened, they will be ready for starting by the time the forcing house is ready for them. Lift *Rhododendron præcox*, *Early Gem*, early-flowering hybrids, *Ghent* and *mollis* *Azaleas*. Until the house is ready leave them outside, and if they are exposed to a few good frosts in the meantime they will start all the better.

*Lily of the Valley.*—The earliest single crowns may be started now. Plunge the pans or boxes in brisk bottom heat, and cover the crowns with about 1 inch of cocoa-nut fibre refuse. Those for succession may be placed amongst leaf mould, cocoa-nut fibre or light soil in pans, boxes or pots, and left outside until they are wanted.

*Dutch Hyacinths.*—Early varieties that are green, and display signs of growing, may be stood on the surface of the fermenting material until they are growing freely, when they can be arranged 10 inches or 1 foot from the glass. After these plants start growing they come forward rapidly in the moist heat of the forcing house. For this purpose *Homerus* and *La Tour d'Auvergne* are most suitable.

*Tulips.*—White *Pottebakker* and *Scarlet Duc Van Thol* in pans and boxes must be ready for pushing forward into bloom. These will bear more heat than *Hyacinths* in their early stages. Neither these nor *Hyacinths* can endure dry atmospheric conditions, and if the boxes are stood on the fermenting material they will soon display signs of growth, and are not long before they come into flower. Good supplies of these before the close of next month will be found invaluable. Few flowers are more effective for dinner table decorations towards the close of the year than *scarlet Tulips* arranged in small vases with their own foliage and a little wood moss between to keep them in their proper position.

*Dielytra spectabilis.*—Lift quantities of these and place the roots in 5 to 7-inch pots, leaving them outside for a few weeks. When lifting all weak crowns should be reserved for planting again. Those that were forced last season and laid in may be divided and planted for another year in rows 15 inches apart; bury the crowns about 1 inch below the surface.

*Gladiolus The Bride.*—These are very useful in 5 and 6-inch pots. Good supplies must be potted without delay. Drain the pots liberally, and place the roots as thickly as possible in the pots, covering with 1 inch of soil. After potting plunge them in ashes outside until they start into growth. Those that flowered early this season will have started into growth, and may be removed from the plunging material to a frame. Keep them shaded until their growth is green, when they may occupy a position in the greenhouse. These plants do well in sandy loam and one-seventh of decayed manure.

*Epiphyllums.*—These are showing their flower buds freely, and will soon come into flower if arranged in an intermediate temperature. In no position, perhaps, do they look so well as amongst *Adiantums*, and well elevated above them. Be careful to allow them a sufficient supply of water at their roots, it is a great mistake to keep them dry. Place young stock that has only been worked a few months in a temperature of 50°. Established plants that are not needed in flower may be kept perfectly cool.

## THE BEE-KEEPER.

### APIARIAN NOTES.

#### WINTER WORK—WAX RENDERING.

To a great many bee-keepers this is a source of great annoyance, and the difficulty of extracting it thoroughly from the combs; also it sometimes forms into granules, and will not become solid. This last state I have never been quite able to understand, but I believe certain kinds of pollen is a cause, as is also the water when in a state favourable to granulation. Pouring the wax while hot

into cold water produces it. Lime and other alkaline substance destroys the compactness of wax. Rain water that has not been in contact with these substances should be used in all cases of rendering wax.

Exposure to the sun and air is the best and safest method of bleaching wax to white. The purity and clearness of wax is best effected by melting it in a double-sided vessel, glue-pot fashion, and keeping it a long time in a liquid state undisturbed, so as to allow all sediment to fall to the bottom.

Nitric acid in early times was much used to purify or bleach wax, and is preferable to sulphuric acid more recently used in bleaching wax. I cannot recommend either, further than if the vessel for melting wax is iron, it might be cleaned beforehand with dilute sulphuric acid, iron having a tendency to darken wax.

Tin or copper vessels are the best for that purpose. The most satisfactory method of extracting wax.—Put the combs into bags of open texture, such as the best scrim or of cheesecloth; tie them single knot, and put one or more into the sieve of tinned wire cloth or one of wicker work, so that no part of the bag touches the outer boiler, which the sieves must also clear. Care must be taken that the wax does not boil over, for, in addition to loss, it is very inflammable. When boiling, press the bag gently to help force out the wax, and when seen on the top either skim or let it off by a spout about 4 inches or so from the top of the outer vessel. When this is done, draw the bag and place it in a sieve or form under the press, which will press out all the wax. Meanwhile, as the hot bag is lifted from the boiler, replace it with another bag of combs.

The above process answers either for a large or small quantity of combs, and as the boiler is never much below boiling it is a continuous, speedy, and cleanly method of extracting wax, as combs become infested with acari soon after being taken from the hive which consume the wax. Neither these nor moths should be allowed to harbour amongst them, but melt at once.

The sieve should be of a fair size, not less than 12 by 12, which necessitates the boiler to be about 14 or more inches wide by 16 or more deep, which is also used to hive bees. Either near the ground or attached to the telescopic pole when the bees ascend to trees I have used such an arrangement for many years. I sometimes use a light lid so that it may be closed when the bees are shaken into it, so that it does not kill them. If the day is very warm a light piece of cloth may envelope the hiver. When practicable I prefer to hive the bees at once into their permanent hive, but this sometimes cannot be done; full sheets of foundation prevent inversion or rough handling of the hive, and flighty queens forbid shaking in front or top of hive. To obviate all this, and reduce labour to a minimum, I use a bag the same size as the sieve; the wax bag will do, but it is well the material be light. This bag is fastened to the bottom rim or mouth end of the sieve, and the bag is drawn taut to the close end, and fastened several places, so that the bag is kept distended the full size of the sieve. When the bees are secured in the sieve carry it to the hive to be tenanted, which ought to have a cross (made with two pieces of wood, a little less in size inside measure than the sieve) upon the top of the hive. Now place the sieve upon the hive over the cross, and unloose the fastenings. The bees will, as the cloth presses upon them, retreat to their permanent hive below without any fuss or risk whatever.

It will be observed that when round sieves are used the bees if they choose could escape at the angles, the openings there should be closed. Or to obviate all trouble have square tin sieves and hivers, which latter may be of wood. The inner bag in this case should have a stiffish wire or wooden rim to keep the bag distended, and dools of wood or iron will keep it in its place.

There are other things to prepare, but think the foregoing sufficient for the time being for bee-keepers to study and get ready in time before the vernal sun reveals the charms of the apiary and garden.—A LANARKSHIRE BEE-KEEPER.



## TRADE CATALOGUES RECEIVED.

Hogg & Wood, Coldstream and Duns, Scotland.—*Catalogue of Nursery Stock, 1891-92.*

Harlan P. Kelsey, Linville, North Carolina, U.S.A.—*Catalogue of Trees, Shrubs, and Herbaceous Plants.*

Thomas. Rivers & Son, Sawbridgeworth.—*Fruit Trees, 1892-93.*

George Phippen, Reading, Berks.—*Carnations, and How to Grow Them.*

James Walters, Exeter.—*Catalogue of Roses.*

Lévêque et Fils, Ivry-sur-Seine, near Paris.—*Roses and Other Plants.*

James Carter, Dunnett & Beale, 237 and 238, High Holborn, London.—*Illustrated Wholesale List of Novelties for 1892.*

"Lambert's," 12, Dover Street, Borough, London.—*List of Novelties.*

W. Cooper, 751, Old Kent Road, London, S.E.—*Illustrated Price List of Conservatories, &c.*



\* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Stands for Chrysanthemum Blooms (H. O.).**—Thanks for your letter; the height should be 3 inches in front, as you suggest.

**Double Lilac Primrose (S. D.).**—Yes, there is a double variety of *P. acaulis*, which is quite hardy, and can be had from any dealer in hardy plants.

**Papers on Peaches (G. N.).**—The numbers you require are not in stock, but several other good papers have appeared since then, to which we can refer you if desired.

**Name of Chrysanthemum (Amateur).**—We have no record of the bloom to which you refer, but if you write to Messrs. Perkins & Son, they will, no doubt, supply the name readily.

**Christmas Roses (G. Twyford).**—They are very good. A letter has been posted to you. If the address you gave is insufficient inquire at the post office.

**Gloucester Show (G. Tidman).**—If you will point out the precise inaccuracies in the report, and supply the necessary corrections, they shall be inserted if your letter reaches us not later than Tuesday morning next.

**Roman Hyacinths (T. F.).**—The Hyacinth bulbs are sound and good and the roots healthy. You should have described briefly your method of culture, and the position in which you grow the plants that fail. We suspect that those you have sent will flower satisfactorily with us.

**Species of Fruit (W. Gale).**—The class in the schedule is thus worded: "Collection of fruit, six species, distinct." You showed Grapes, Plums, Pears, Apples, Currants, and a Melon, and was therefore within the terms of the schedule. Another competitor showed two varieties of Grapes and two of Pears in his collection of six dishes, thereby placing himself outside the prescribed terms, and he ought to have been disqualified by the judges, no matter how good his fruit might be.

**Sport from Cullingford Chrysanthemum (J. T. Ebbutt).**—Yours is not the first sport of this nature; but whether it is the best or not we cannot tell, as unfortunately half the florets fell out of the most incurved example on removing the bloom from the box. It is worth preserving with the object of determining its true character by the methods adopted by leading exhibitors. The chief defect at present is bristliness of the florets, as is often seen in Jeanne d'Arc. Try it again, and send younger blooms another year.

**Chrysanthemum Sport (G. Hawkins).**—The paler bloom, which we should have thought the younger, is very fine indeed. It is pearly white with a faint blush tint, with broad smooth florets, the bloom being full and deep. Several florets fell out of the more cream coloured bloom which you refer to as the younger, and many were withered. If the characters of the first-named were fixed and constant, the variety would be an acquisition; but the second detracts from the merits of the sport. Give it further trial.

**Gansel's Seckle Pear (B. D. K.).**—It so happened that Mr. Rivers called here the same day your letter and sketches arrived. He has no doubt the No. 2 Pear is Gansel's Seckle, of which he has fruits at the present time. He considers it inferior to the true Seckle. So do we. It was raised by Mr. Williams of Pitmaston by crossing the Seckle with Gansel's Bergamot. We should imagine the Seckle was raised from seed, not as a sport. Dana's Hovey is a delicious little American Pear of the same nature, but ripens about Christmas. If you like small rich Pears you should try it.

**Stocks for Medlars (J. W.).**—Seedling Medlars are sometimes used, the seeds being sown as soon as the fruit is ripe; they usually take two years to vegetate. The young plants must be tied to stakes, have the side growths pinched, and kept in an upright position to secure stems for grafting, or preferably budding at the right height. Medlars are also worked on Pear, Whitethorn, and Quince stocks. The Pear stock answers well for grafting or budding standard high, and has the advantage of succeeding in most soils. The Whitethorn is employed because it is readily obtained, and succeeds on sandy and dry soils. The Quince is considered the best when the Medlar has to be grown in moist situations, as it roots near the surface, and the trees are dwarfed and produce finer fruit. Seedling Medlars are the best stocks in good soils.

**Apricots (Inquirer).**—Oullins Early Peach and Powell's Late are two good Apricots, having the quality of Moor Park, but much hardier constitutions than that fine variety. Kaisha is also an excellent Apricot, much less in size than the preceding, yet when well thinned attains to a good size and is delicious in flavour. It is a most abundant bearer, and not so liable to gum as many varieties. The Pears cracking and spotting is no doubt due to the wet season, which has been favourable to the spread of the fungus, causing their disfigurement, one of the worst being Louise Bonne of Jersey. Try the remedies named in last week's Journal, page 421.

**Saddle Boiler Furnace not Drawing (J. B.).**—Either the setting is defective or surrounding objects cause a down draught. We presume you have an ash pit not less than 1 foot deep and the length of the furnace bars, and this enclosed on the two sides and far end so that air must pass through the bars or door opening to the furnace. Then the side flues should have their bottoms at two-thirds the height of the furnace, calculating from the furnace bars to the crown of the boiler. This will give the fire and smoke a jump from the furnace into the side flues, and if those are taken over the top of the saddle in one flue to the chimney, and all properly separated and constructed, it is difficult to see why the fire will not draw. Consult a bricklayer who understands boiler setting.

**Gypsum as Manure (G. H. H.).**—Gypsum as advertised for manure differs from the plaster of Paris used by builders in being purely ground or powdered sulphate of lime (gypsum), whilst plaster of Paris of the builders contains a small quantity of lime, causing the plaster, when moistened, to set into a hard marble-like substance, otherwise pure plaster of Paris and gypsum (ground) are identical. You cannot form gypsum by taking lime and sulphur and mixing them in the manner you describe; besides, sulphur is one of the worst possible substances to apply to the soil. Sulphur, combined with lime (hydrated calcic sulphate,  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ), is very different substance from the same components used separately. Procure the gypsum from the manure dealer or make sure that the plaster of Paris contains no "setting" substance.

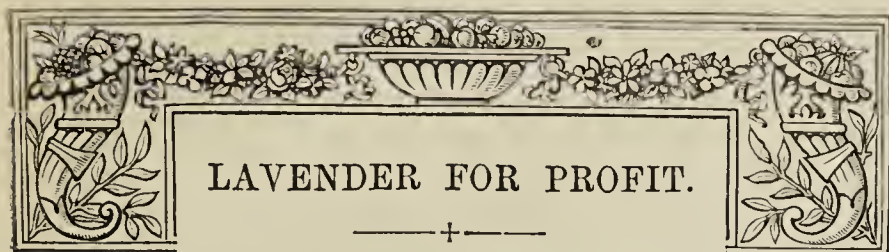
**Heating Arrangements (J. B.).**—You may cut a piece out of the flow and another out of the return pipe, and fix a two-way branch on each where you propose, with a syphon at the end of the run of piping, where there must be a pipe or tap at the highest point of each syphon to let out the air, but it seems that you will have to heat the greenhouse at the same time as the house you wish to keep warmer, which is a bad arrangement, as the warmest part should be nearest the boiler, so that it could be heated without unnecessarily heating the greenhouse. It would be better to so arrange the pipes so that each house could be heated independently of the other, having valves on each for regulating the heat. This may, perhaps, be arranged in the manner you describe by heating direct from the boiler. You may get diminishing sockets from the horticultural builder who supplies the pipes if you describe what you require.

**Flowers and Seeds (J. W.).**—The essential parts of a flower are the stamens and pistil, and without these seed cannot be produced. The term "flower" includes both calyx and corolla, which are not essential to seed production, though they are present in a very large number of flowers, and serve both as protection to the more delicate essential organs, and as a means of attraction to insects. Seed, however, is often produced without calyx or corolla being present, and some might, therefore, erroneously think there was no flower. Some flowers, termed cleistogamous, also produce seed without expanding, as in some of the Viola family, and when these pods are observed it might be thought they had been produced without flowers. Without ovules to be fertilised by pollen, through the medium of stigma and style, or without their aid (as in the Conifer family), it is impossible to produce seed; therefore our decision is in favour of B.

**Guano for Asparagus (Francis).**—"Guano copperas," consisting mainly of porous sulphate ( $\text{FeSO}_4$ ), more or less ammoniated, is useful as a manure and may be used for Asparagus as a top-dressing. A small quantity is most beneficial, say half to 1 lb. per square rod, or quarter to half oz. per square yard. A large quantity is injurious. It should be applied early in spring, always when the ground is wet. Asparagus contains a large per-centage of iron, and succeeds best on siliceous soils, especially alluvial, which always contain iron. Iron sulphate is well known to increase the leafy or pulpy parts of plants, but it must be used discriminately, taking care not to give an overdose. "Ichthemic guano" is not so good as the nitrogenous guanos for Asparagus, yet valuable. Non-nitrogenous guanos, however, are more durable in effect, and may be used with advantage in soils deficient in lime.

**Packing Fruit (F. S., Buenos Ayres).**—There is always a market in England for choice garden produce of all kinds, especially at those seasons when it has not to compete with continental consignments and home-grown produce. "Very fine, first-class Pears in the months of March, April and May" are sure to realise good prices, provided the fruit





## LAVENDER FOR PROFIT.

I SHOULD like to give a few hints on the formation of plantations, as I have had considerable experience in this work. Where the situation and soil are of a suitable character many land-owners might do worse than turn some of their—at present—unprofitable land to account by growing Lavender. I am positive that a fair return may be realised by so doing. Where Lavender is cultivated with a view to distilling the flowers for the oil, the wet month of August was very detrimental to a good yield; the best weather is that which is hot and dry. Sold in a green state Lavender will pay £5 per acre for the first year's cutting, and often more can be realised. The fourth year's harvest sometimes realises £40 per acre, which cannot be considered a bad investment, and this sold in a green state, which dispenses with the trouble and cost of distilling.

Although Lavender plantations in some districts suffered to a great extent by the long and severe winter of last season, strange to say in a plantation established the year previous we did not lose a single plant. They look remarkably well, and yielded a good crop of flowers this season. No doubt the position favoured these plants somewhat. The ground slopes gently to the south, and is sheltered on the eastern side as well as the north. Although the land is retentive and heavy, it cannot be termed a wet soil; there are too many flint stones among the soil to admit of the water remaining long in it. The chalk lies fully 2 feet below the surface, and I think Lavender is as certain to succeed there as it is possible to do anywhere.

Some say that the soil must be poor to grow good Lavender. I do not think it is wise to have the soil rich at planting time, especially if cuttings are used instead of plants; but, like most other crops, a fairly luxuriant growth gives the best crop of spikes, and from these a better yield of oil is obtained than from small puny flowers, the result of poor, half-starved land. Soil of the character named, and which overlays chalk, is sure to be highly impregnated with this composition, rendering it quite of a calcareous nature, and the same plants will continue to bear freely much longer than where the subsoil is clay, and likely to be wet during the winter. Shelter from the east is most essential; the tender growth of the young shoots often receive a check in the spring by the prevalence of biting winds from that quarter.

In growing Lavender for profit the best variety must be secured. This is undoubtedly the English variety *spica*, or what is commonly known as the "Mitcham" kind, distinguishable from the French variety by its upright growth, larger flowers, which are deeper also in colour, as well as more numerous produced. The French kind is more spreading in its habit of growth, the leaves are larger, much more grey or "mealy" in appearance, fewer spikes are produced, these being considerably smaller in the flower heads, and less rich in oil producing, which is an absolute essential point to study in a commercial point of view. Intending planters ought to pay considerable attention to this phase of the undertaking, it being utterly useless to risk the planting of the inferior kind.

Propagation requires some consideration. Cuttings, or what is perhaps more correct, slips, are usually employed to increase the stock. I have tried both methods—cuttings and slips. Much the greater success is obtained by the latter. Pieces with three or four

growths attached are the best; these slipped off the plants by a sharp downward tug contain a small portion of old wood attached to the base, commonly called a heel. From this part roots are first formed. Some pull old plants in pieces, and with pruning shears or a small bill-hook sever the cuttings about 3 inches below the growth shoots from the main stems squarely across. In this case roots are first made from the sides of the cutting, not direct from the base, as in the case of the slips. The shoots formed at the top of the cuttings or slips are cut squarely across, which lays the foundation for a future bush growth. Opinions differ as to the best time for inserting the cuttings. I have tried the early part of October and also February; the greatest success has been obtained during the first named time, especially if the position is a sheltered one. The advantage of autumn propagation is, I think, considerable over spring, as so much more time is allowed for the plants to grow the first year, the sooner they make big bushes the better for their future success in producing a crop of flowers. Many of the Sutton and Mitcham growers of Lavender hold to February propagation, but I have noticed very long gaps in the rows the following summer, and have come to the conclusion that autumn inserted cuttings have an advantage.

The next question is, How shall the cuttings be inserted? The general practice is to dibble them in rows 1 foot apart, and the same distance from each other. The following October the plants are thinned, removing every other; the next year they will stand 3 feet apart, which is the usual distance for established plants. Where land is not of very great consequence and horse labour available the cuttings may be dibbled in rows 3 feet apart, the plants half that distance, the surplus cuttings required would be available for filling up any gaps which might occur in the rows. This plan saves the trouble of replanting from the beds into the permanent place, and does not entail any check upon the growth of the plants occasioned by removal. With the aid of a horse hoe a few acres of land is quickly cleaned, given suitable weather.

Where land is scarce, and labour for cleaning it also, I consider the best plan is to insert the cuttings in rows 1 foot apart, allowing but 4 inches between the cuttings, putting out the plants permanently at the end of September if the weather be showery. By this method less ground has to be kept clean and the risk in the permanent plantation is reduced to a minimum. The great point in getting the cuttings to strike and root freely is to make them thoroughly firm at the base, going over them a few times after severe frost, which raises them out of the ground somewhat, which is all against their making roots.

Directly 2 inches of new growth is made the point of each shoot should be pinched out with a view to induce side shoots to form, making a more compact and larger bush. If the shoots are topped twice the first year there will be a wonderful difference in plants so treated as compared with those which are not topped.

In preparing the ground for the plants it ought to be well worked, ploughing it 6 inches deep if possible, following with a subsoil plough in every trench, afterwards crossing the top spit to break up the clods. The better the land is worked and pulverised the greater will be the success the first and subsequent years. In the case of impoverished soil a dressing of farmyard manure should be ploughed in previous to putting out the plants from the cutting bed, but where they are dibbled direct into the land at the full distance I consider manuring the whole space is partly lost. In this latter case I prefer a dressing of dissolved bones or blood manure sprinkled about the plants early in April during showery weather, forking it in afterwards, repeating the application each succeeding spring. The ground should be kept well stirred about the plants, and free from weeds at all times; nothing effectually answers so well as a combined drag and horse hoe. While in the cutting bed the plants are not allowed to flower, but induced to make growth freely.

In some districts—wet ones—it is a good plan to slightly earth



up the plants with the plough on each side of the rows, which is again levelled down with the horse hoe in the spring.

The age at which the plants require renewing depends entirely upon circumstances. Sometimes they are the best at four years old; in some cases they will last ten years. Directly they show signs of decline they ought to be destroyed. If some cuttings are taken every year the supply will be maintained efficiently.

Harvesting is done when the flower heads are fully developed. A properly made Lavender hook is employed, which differs somewhat from an ordinary reaping hook by being narrower and more bent in the middle. An expert person will clear a whole plant with one sweep. The hook is employed to collect the flowers into a bundle in the centre of the plant, where they are held fast in the left hand, and severed from the plant with the right; the flowers are then in correct order for tying in bunches if sold in a green state, but for distilling they are laid straight on large mats of the ordinary Russian type.—E. MOLYNEUX.

## HARDY CLIMBING PLANTS FOR NORTHERN DISTRICTS.

(Continued from page 447.)

### JASMINES.

THE next climber to consider is the Jasmine. The white sweet-scented variety, *Jasminum officinale*, very commonly met with, is a beautiful climber when fairly well treated, but it requires annual attention in regulating its growth, as it is a rank and rapid grower. When, however, it has too much of its own way it makes a dense head of interlacing twining growths very difficult to liberate. The flowers on such plants are few and scattered, simply from the reason that the shoots have not had the chance of getting properly ripened; therefore regulate the main growths, and there will still be abundance of room for a free growth of a fair number of unrestricted lateral shoots which ought to bloom profusely. *Jasminum nudiflorum*, the winter Jasmine, bearing yellow flowers in January and February on the whole length of young shoots of the previous summer, is also a free grower, and well adapted for town gardens. The flowers are borne on the naked or leafless shoots, and therefore every flower is conspicuous. After the flowering period growth commences, and the foliage appears, covering a wall, trellis, or other support with verdure for the summer. Annually prune out the old wood, encouraging as much young wood as possible, and retain every shoot that happens to start from the base of a plant. These Jasmines are deciduous. *J. officinale* is a summer bloomer. Both varieties will grow in ordinary garden soil worked well and enriched liberally at the time of planting. Afterwards, when established, an occasional mulching of rotten manure may be placed over the roots in order to maintain the plants in a vigorous condition. Old established plants are benefited by good soakings of water or liquid manure.

### COTONEASTER MICROPHYLLA AND CRATEGUS PYRACANTHA.

These are useful evergreen climbers, which, moreover, when in good condition, bear very attractive red berries in winter. When these plants are much neglected they do not show themselves in their true characters. Too much old wood is in many cases allowed to remain, and the plants are not treated liberally at the roots. The *Cotoneaster* is a beautiful plant even without its berries, as its small Box-like leaves are so regularly and thickly set upon the branches. For very low positions and for horizontal training the *Cotoneaster* is an excellent plant. It flowers in May at the same time as the *Crategus*, and both bear white flowers.

### CLIMBING ROSES.

There are plenty of Roses adapted for climbing, and none better perhaps than *Gloire de Dijon* among the choice Roses. But for profuseness and freedom in bloom and growth plant the Ayrshire, the Banksian, the Boursault, and the Evergreen Roses. The Ayrshire Roses are slender, but very rapid growers. Little pruning is required, just cutting back the shoots which have borne the flowers immediately these fade, and cutting out crowded, very old, or useless shoots.

The Banksian Roses are vigorous and bloom in large clusters. Very slight pruning is necessary, as the flowers are produced on laterals issuing from ripened shoots of the previous year. It likes a warm wall, and the roots should be protected in winter with a mulching of littery manure. The Boursault Roses are also rapid

growers, blooming in large clusters. They may be treated similarly to the others.

The Evergreen Roses are useful, because they retain their foliage, which is dark green and glossy, throughout the greater part of the winter. They are very rapid growers, and will succeed in situations where many other kinds would die. The flowers are produced in clusters of white and pink flowers.

The soil for Roses on walls should be as good as possible, as upon this depends in a great measure their vigour and floriferousness, and to have them in this condition is a sure antidote against insect pests. There are Roses belonging to other classes also useful for walls, many of the H.P.'s being used in this manner, and also the Teas, but it is needless to say that the latter should have the most favourable situations, and have some protection in winter, by means of a mat hung in front of them during very severe weather, as it is most desirable that the stems should not be injured by frost, or the prospect of bloom the following year will be blighted.

For sweet fragrance in summer the Honeysuckle is a favourite plant, and should be planted in close proximity to the windows and entrances of a house. The best varieties to produce a display of flowers over as long a period as possible are the Early Dutch and the Late Dutch.

The Hop plant makes a grand summer climber almost in any position. It is deciduous, and may be cut down to the ground every winter. The following summer it will grow freely again and cover a large space.

Before concluding these notes I will give a short list of plants suitable for various aspects. For a south wall: *Gloire de Dijon* Rose, *Clematis Jackmani*, *Wistaria sinensis*, Ayrshire Roses, Honeysuckles, *Ampelopsis Veitchi*, variegated Ivies, Boursault Roses, *Jasminum officinale*. For a north wall or aspect: *Jasminum nudiflorum*; Ivies in variety, small and large green leaved; *Ampelopsis hederacea* and *sempervirens*, *Crategus pyracantha*, *Cotoneaster microphylla*, *Clematis vitalba*, *montana*, and *flammula*, *Humulus lupulus* (Hop plant).

For a west wall or aspect: Silver, golden, and small green-leaved Ivies, *Jasminum nudiflorum*, Banksian and Evergreen Roses, Honeysuckles, *Cotoneaster microphylla*, *Ampelopsis Veitchi* and *hederacea*, *Crategus pyracantha*.

For an east wall or aspect: Ivies in variety, mainly green-leaved kinds; *Ampelopsis hederacea*, *Crategus pyracantha*, *Cotoneaster microphylla*, *Jasminum nudiflorum*, *Clematis flammula*, *Humulus lupulus*, Ayrshire and Evergreen Roses. Whatever succeeds well on the north and east aspects will also succeed on the more favourable and sunny positions.

For very favourable districts and warmer positions there is a still wider range of plants suitable for climbing, but those which have been mentioned will succeed almost anywhere where the soil is good and vegetation thrives at all. There is little doubt that a more extended cultivation of climbing plants would enliven many districts, and do something towards forwarding a wider knowledge and love of gardening among all classes, for wherever climbing plants are used to embellish the walls of a residence and its surroundings they most certainly give an added charm.—E. D. S.

## INSECTS OF THE FLOWER GARDEN.

(Continued from page 262.)

CERTAINLY the commonest insects in our gardens are flies, of all sizes and hues. Even the entomologist cannot always distinguish amongst these the insects which belong to the large family of the ichneumon flies, and it is not to be expected every gardener should. Belonging to the same order as the bees and wasps, therefore possessed of four wings, a large number of them are much like the two-winged flies familiar to us both indoors and out. The name of ichneumon fly is not, perhaps, suggestive to some; it is taken from that given to a singular little quadruped which is stated to hunt for the eggs of crocodiles and snakes, thus putting a check upon their increase. The ichneumon flies act similarly, but only a few of them attack eggs; most of them prey upon insects in their larval stage, though some infest matured individuals. It is evidently a wise provision of Nature that exempts adult insects generally from such foes, and directs them to the destructive grub-caterpillar, which is then prevented from completing its changes. Great is the dexterity shown by the mother fly in depositing its eggs when the larva it is seeking is, more or less, hidden from view. By some sense unknown to us the ichneumon flies detect grubs that are feeding in wood, and discover a cranny into which the eggs of the parasitic larvæ can be placed so as to reach their object. Other flies manage to deposit eggs in the nests of wild bees, and escape unmolested, and a curious instinct sends one kind actually into the water, where they attack aquatic grubs.

Probably we have about 1100 species of these flies in our



islands, and many of them are haunts of flower gardens where their presence should be welcomed. We cannot estimate with exactness the benefits we receive from them, as their victims cannot be numbered, but no doubt these natural enemies of our garden pests accomplish results which would contrast favourably with the destruction of insects brought about by human agency. One notable circumstance in their economy is that by a sort of adjustment, if caterpillars or grubs are particularly abundant, Nature brings rapidly into existence in most cases a proportionate number of their destroyers. This was very observable in what some people called the "caterpillar year," viz., 1887, when the warm dry summer much favoured these insects. Of many species there must be several broods during each season; but we notice the flies chiefly while the sun is shining, as they not only hover about; it is also their habit to run rapidly over plants, constantly vibrating the antennæ. Some of them extract honey from flowers, only, however, in small quantity; they do not seem to need much food while in the fly state.

Amongst the ichneumon flies we find great differences of size. Several are large, like *Ophion*, which is almost an inch in length and moves with a hum, the bulk are of moderate size. Some, and these of considerable use, are very small, having also short wings; they might be taken for little ants upon the twigs or leaves. Generally, we might say these flies are examples of lightness and strength. The thorax is stout, the abdomen long and slender, usually attached by a stalk, in the females having an egg placer; the wings are delicately veined, often large, and the slender antennæ show keen sensibility to touch; it has been supposed they may be also organs of hearing. Some of the ichneumon flies deposit but a single egg on each victim, and some fasten upon it a number, even seventy or eighty have been counted. When full fed some of the larvæ (which are all maggot-like, only they have six minute legs) change to pupæ within the carcase of their victim, from which they emerge as perfect flies. Most quit it and spin a cocoon of silk; this is sometimes beautifully banded with colours, a peculiarity observable by a moderate magnifying power. One species of *Microgaster* is seen to form its cocoons in tiers, the larvæ working together when they have fattened on some caterpillars, twenty or more cocoons being joined so as to resemble a honeycomb in miniature. Another *Microgaster* groups the cocoons together irregularly; these are like tiny half cheeses, and the larvæ spin about them a sort of grey wool, possibly to keep off enemies. Then there are cocoons which are swung, and some that are called jumping cocoons, because they leap or jump about from the contortions of the pupa enclosed; this may be because it is itself attacked by another insect, for there is ample proof that ichneumons are themselves often preyed upon by other lesser parasites, fulfilling a familiar saying.

Many a plump caterpillar, which has devoured the leaves and tender stalks of our garden flowers, holds within it the larvæ of an ichneumon fly, by which its farther advance is arrested. We have a well-known instance in that of the small white butterfly, which is a feeder upon Cruciferous and other plants in our flower beds from spring to autumn. It is attacked by more than one ichneumon fly, notably by a species of *Microgaster*, allied to that, which first slays the common caterpillar of the Cabbage butterfly, then covers it with a mass of golden cocoons. It is the habit of the grubs or larvæ to feed within the caterpillar they infest, and manage to avoid a vital part till they have nearly become adult, when they finish it off, leaving but the shrivelled skin as a relic. The caterpillar of the gamma, which feeds upon a variety of herbaceous plants, is checked in its increase by an ichneumon fly; so too is the abundant caterpillar of the Currant moth, which occasionally pays a visit to our flower beds. Hairy caterpillars do not escape, such as those of the garden tiger and the common ermine. In spite of their clothing the flies succeed in placing eggs, and the larvæ burrow into the skin. The repulsive sawfly grubs, so hurtful to the Rose and to other favourite plants, have their diligent foes of the genus *Paniscus*. Even the tiny caterpillars that disfigure our shrubs by rolling their leaves have no power to elude these flies, which, by means of the egg-placer, reach them in their green hiding place.

In the *Ophion* group we have the singular circumstance that the eggs are laid upon the footstalks, not inserted in the skin, and the grub when it enters carries in a thread which keeps it attached to this stalk till it is adult. Some of the caterpillars infested by *Ophion* grubs succeed in making their cocoons, but they do not enter the pupal state, the parasites' cocoons being spun inside—the caterpillar's dying effort. Then there is a large tribe of these flies called the *Braconidæ*, and their occupation is different. They hunt up a variety of beetles, and deposit eggs on their hard wing-cases, but the larvæ manage to pierce in, and through them many beetles that gnaw leaves or nibble our flowers die off speedily. Great, too, is our obligation to another group, the *Aphidi*. These tiny flies

deposit one egg upon the body of every aphid they attack, and diminish the numbers of one of our most troublesome insects. Each fly is parent of many larvæ.—ENTOMOLOGIST.

### LILY OF THE VALLEY FOR FORCING.

A FEW sprays of Lily of the Valley during the winter months are much appreciated by all lovers of flowers, and especially when flowers are required for working into sprays for ladies, or for buttonholes. Although the Lily of the Valley is a hardy plant, it requires a high temperature to force it into bloom by Christmas and the following two or three months. We grow, and greatly prefer, single crowns for early forcing, as they come into bloom earlier and are more certain than clumps, although these are useful for later use. Many people have failed with crowns; but when failure occurs it is due to their being allowed to become dry before potting, or keeping them too dry during



FIG. 87.—FORCING LILIES OF THE VALLEY; A POT OF SINGLE CROWNS.

forcing. If procured from a respectable nurseryman the crowns are sure to be well ripened and in a fit state for potting on arrival.

If it is not convenient to pot them at once cover them over in damp cocoa-nut fibre refuse in the open air until the desired time arrives. We place sixteen crowns in a 5-inch, or 48-size pot, and insert them very firmly, arranging them equally over the pot with the tips of the crowns protruding through the soil. Some people find a difficulty in arranging them in the pot, but by placing the required number in the hand with layers of soil between they can be dropped in and the rest of the soil worked in amongst them.

After potting, plunge in damp cocoa-nut fibre refuse in a cold frame, or in the open air. Although they may be introduced for forcing directly after potting, we do not place ours in heat until two or three weeks afterwards, when they are introduced as required. From three to four weeks generally elapse from the time of placing them in heat until they come into bloom, if the course of treatment is pursued that will be here indicated. A moist bottom heat of 90° is required, and a position where they may be kept quite dark.

We have a small frame placed over the pipes where they enter the house, and this is kept covered up so as to keep the interior dark. When



ready for forcing, the pots should be brought into the house, and receive two or three waterings with warm water so as to thoroughly soak the soil. Plunge in the frame, or wherever they are to be placed, up to the rims of the pots, and cover the surface of the pots over with moss. Every morning water each pot with warm water, and until the crowns have grown about 2 inches keep them in the dark, then gradually inure them to the light, keeping them well watered.

After the crowns have grown 3 inches or so, stand them out in the house, but where the temperature does not fall lower than 70° or 75°, and take care to keep them well supplied with water; indeed, this is the main requisite for insuring success. If the above treatment is followed foliage as well as flowers will be produced at the same time. If clumps are used for later batches, a lower temperature can be allowed. Fig. 87 represents a pot of Lily of the Valley treated as described, the engraving having been prepared from a photograph.—A. YOUNG.

## SWEET WILLIAMS AND THE LATE MR. THOMAS HASTIE.

THE Sweet William may be called everybody's flower, as, being easily grown and cheap, it is within the power of the poorest cottager to have a bed of it. The heads are somewhat stiff, it is true; but then for cut flowers its rigidity is valuable to keep up flowers with weak stems, while its glowing colours set off the quieter looking blooms to advantage, and from a bed many varieties in colours are obtained. It has been grown for many generations, but, strange to say, never seems to have been made the subject of anyone's peculiar care until almost our own day. Seeds were sown with regularity, but little seems to have been done to improve the flower by careful selection of the good and resolute destruction of inferior kinds. Fully thirty years ago, when I began to get fairly interested in flowers, "Hastie's" Sweet William was commended most highly in the West of Scotland. Many seasons passed ere I knew who Mr. Hastie was; but still, wherever I went and chanced to see a good strain of Sweet William the proud possessor would explain the reason of its excellence by saying, "Yes, it's very fine, it's Mr. Hastie's." At length, escorted by a mutual friend one autumn afternoon, I found myself in Strathavon, Lanarkshire, some fifteen miles south-east of Glasgow.

About a mile beyond the curious old town the beautiful River Avon is crossed, and just at the bridge, on the east bank, Craigmill stands. The owner, Mr. Thomas Hastie, joyfully gave us welcome with true florist's delight, showing us over the fine garden and greenhouse, which he had planned and brought to rare perfection up in the moorlands. Thinking only of his interest in Sweet William, it was quite an astonishment to see a great square entirely filled with many hundreds of the finest Roses in cultivation, and again, another great square of late Phloxes, marvellously well grown, and all carefully named. Then the very long border of choice herbaceous plants, where many a gem graced this upland Eden. Between the Roses, and at the back of the hardy flower border, a narrow path divided, and along this were very fine Delphiniums, ranging from 3 to 8 feet high, and of every shade of blue. Here, strange to say, the *Gunnera scabra* was growing with magnificent spreading leaves as big as umbrellas, and a cone flower over 18 inches in length. All the protection given in winter was a great square of turf (grass side turned down), laid over a little leaves or straw about the crown of the plant. *Eryngium amethystinum* shone with a steel-blue glitter and a profusion of spikes, which I have never seen equalled elsewhere.

In a large bed were what I had come to see, his famous Sweet Williams, but almost out of bloom, only a warm invitation to come and see them next year, and meanwhile I noted the few flowers still appearing, which for colour were dazzlingly bright, the deep blood red being kept apart to preserve the strain. Among the varieties were very light reds set off with pure white eyes and white edges. Deep carmines were, however, the finest of all, and when seen the following summer with immense heads of bloom in sparkling sunshine gave an idea of what careful cultivation could do to what had hitherto been left to the mercies of bee-fertilisation and careless growing.

Mr. Hastie said that years before he had tried to save seed only from the best, but always poor sorts would assert their presence till he ruthlessly drew them out whenever their common ragged character appeared. By continuing this practice he eliminated all the tooth-edged sorts as well as those with the colour run into the white. Every year he had a new bed of seedlings to scan, from out of which some would come almost perfect. These he carefully saved, taking cuttings from them as well as saving the seed.

After many years he attained to the standard of perfection, the white lacing smooth and unbroken by rays of run colour, with the

outmost edge uncut or rose petal like; saw-like edges were not tolerated. Then the band of colour was solid, as if drawn with a brush, and the richer the colour the better. The centre or eye was pure white, while the heads were very large, being grown on rich soil. For years I had the pleasure of seeing the blaze of colour far superior to a bed of Stocks or Asters, while otherwise the garden was always beautiful.

In spring the Primroses of all shades and varieties, the Daffodils *Horsfieldi*, *Sir Watkin*, and other fine sorts, with *Lychnis viscaria* fl. pleno, &c., made a picture not often seen, even in gardens situated in warmer localities, or superintended by skilled gardeners, with assistants to boot. For a long time the rage for double flowers of every description was quite shutting out the improvement of single blooms. The fashion for single Daffodils, *Marguerites*, &c., has now set all the other way. Many double Sweet Williams have arisen, most of them neither showy in colour nor pretty in themselves. Exception to this general condemnation must be made in favour of Murray's double dark crimson, which is superb in colour—a dark rich velvet, and of good form and dwarf habit. It was raised by the late Mr. Murray, Superintendent of Paisley Cemetery, and for a ribbon border of a permanent kind is unsurpassed. To see it on a bright day puts all other flowers into the shade, while a patch of it a yard across makes any garden look much above the common. Of course, propagated by cuttings.

A fine bed of Columbines were an especial delight, as the single varieties *chrysantha*, *cœrulea*, *Witmanni*, &c., had been crossed by the bees, and innumerable varieties had resulted and were perpetuated. Go where you pleased, the large garden was in fine order, the vegetables, Cauliflowers, &c., splendidly grown, while every week visitors came long distances to see something or other in bloom. Hospitable in the extreme, without fuss, Mr. Hastie gave most willingly to those he esteemed cuttings and plants of all the rare things he had collected in a long lifetime. When he visited others he expected the same treatment, and was not pleased when he did not receive it. In his youth he was very active, of a spare habit, but untiring as a worker. Fully 6 feet in height, he thought nothing of walking out twenty miles to see a friend's garden, have a "crack" and walk away home again, proud of any new thing he had obtained. Latterly he became somewhat deaf, and friends had to speak loud to enable him to hear.

Once, while admiring the blaze of his greenhouse, with Fuchsias, *Pelargoniums*, &c., of which he had a large and expensive collection, I asked how he managed to keep everything in such order. He answered that his "better half" did the better half of it, and it was true, as in Mrs. Hastie he had a helpmeet indeed. But for her, Peaches and Grapes would not be the grand crop they were, as now he could not take enough patience with them. Then, when he would go to the Kipe Hill, several miles to the south, where he had grouse shooting, everything might be scorched ere he returned.

Three years before his death he bought many pounds' worth of stage Auriculas, which he set out in a long brick frame, eschewing pots, and certainly the blooms of them were extraordinary, and for size of trusses unequalled. One drawback, however, existed in this planting-out in open frames: the plants could not be lifted to the eye and examined at leisure. As a set-off, the reduction of trouble in watering was very great, while poor growers, as Lancashire Hero, became vigorous, and he delighted in a well-grown plant.

Born in 1808, in Forland, Dalserf, his father shortly thereafter took an orchard farm near Carlisle, and here, while but a boy, his strong taste for flowers, manifested itself. He used to laugh over his first attempt at grafting, as it arose over seeing the operation performed while he was very young on the farm orchard. He imitated the process on an old Cabbage stalk, and great was the mirth of the household over Tom's ingenuity.

In the year 1832 he came to Craigmill as a miller, and carried on the business for fifty-six years. He transformed the whole place, rebuilding and extending, planting trees, laying out the garden, and building greenhouses, &c. He spent some hundreds of pounds on Roses alone, and no finer or more extensive or better grown collection could one see in a private garden. All he grew had to be first-class, and I remember well taking a Highland friend once in to call as we passed up the riverside, when the *Pelargoniums* were at their gayest, and the utter astonishment of the kilted gentleman was delightful to us all, while Mr. Hastie said, "They could grow more than Heather and Grass up in the moors."

He kept several bee skeps, and here the "Lanarkshire Bee-keeper" was always welcome, but for new fangled ways of keeping bees in boxes Mr. Hastie would prefer the old straw methods of his fathers. Even a visit to his friend, the "Renfrewshire Bee-keeper," where the Stewarton octagon system improved was seen at its perfection, could not alter his preference for straw skeps.



"I may try boxes for summer, but for his *could kintra* the straw was safest to winter in." He died in July, 1887, of heart disease, and was buried "on the windy hill" which shelters Strathavon from the east, with many a life-long friend laid beside him. His widow maintains the greater portion of the plants in undiminished beauty, Roses and hardy border flowers being even finer than ever.

What a contrast this to the garden of Mr. Hastie's old friend and fellow grower of Sweet Williams—viz., Wm. Campbell of Woodfield, Dunoon. For years these two friends exchanged floral courtesies, comparing their choicest seedlings of Sweet William, and esteeming each other's success to the full. No jealousy disturbed the calm friendship or interfered with their visits. "If Mr. Campbell has the finest Sweet William as to form I have it in colour," said Mr. Hastie to me on one occasion, and it was the exact truth. Mr. Campbell took up the raising of Sweet William, and for ten years worked patiently and with all the skill and "gumption" which used to mark our old Scottish gardeners ere that mastery of all outdoor cultivation became lost in the too much glasshouse knowledge of our present time. He sold his stock of Sweet William to Messrs. Downie & Laird of Edinburgh, and now it is scattered everywhere, but our busy little friends the bees are so laborious in their efforts that it is almost impossible to retain the strain pure. One bad plant in a garden will effectually ruin a whole bed of the finest flowers, as I have experienced frequently. Hence the scarcity of the true strain of Hastie's or Campbell's to be found in even carefully kept gardens where Sweet William is appreciated. It has not died out, as this year in September I had as lovely a head of it as I ever saw, and a friend grew a whole large bed as pure as Mr. Hastie ever had.

Many now proclaim that the finest strain is theirs, and certainly the culture goes forward by many skilled seedsmen, but, like the other good things of the world, what was at first contemned has been sought after; what was of no value when it was Mr. Campbell's or Mr. Hastie's is now to be lauded to the skies because it is other people's.

"Once in a golden hour  
I cast to earth a seed,  
Up there came a flower,  
The people said, a weed."

To those pioneers, however, let us award the praise, and while we continue to grow the flowers which their patience and skill improved so much, let us not forget the—alas! now desolate garden at Dunoon, where the late Mr. Campbell did so much to carry forward the good work begun at the still beautiful garden at Craigmill, for from these gardens we all obtained the seed.—ALEXANDER SWEET.

### AMERICAN APPLES.

#### AN ARBITRATION CASE BETWEEN SHAW AND RONALDSON.

Before MR. JUSTICE MATHEW and MR. JUSTICE CHARLES.

THIS was a remarkable case illustrating how disputes arise between mercantile men upon shipments of cargoes, especially of a tender and perishable nature as fruit, and their deterioration by reason of delay in their shipment after they are packed; and the settlement of such disputes by arbitration. The case had arisen out of the shipment of a cargo of 12,000 barrels of Apples from Nova Scotia to London; the shipper's complaint against the shipowner being that, by reason of his delaying the shipment for fourteen days—the Apples being already packed—many of them were rotten and the rest seriously deteriorated in value when they arrived in London.

On October 3rd, 1889, Benjamin Shaw, a fruitbroker of Hull, wrote to Thomas Ronaldson (trading as Thomas Ronaldson & Co.), ship and insurance broker, of Leadenhall Street, London, "I hereby guarantee to ship by the 'Damara,' 'Ulunda,' and other equally good steamers you may load of your line, from Horton or Annapolis, in the Bay of Fundy, a minimum of 10,000 barrels or a maximum of 12,000 barrels during the last half of November of this year, the same to be delivered to me at Hull or London in the usual docks, &c. The rate of freight to be 4s. per barrel if the entire shipment is taken delivery of at one port, but if I require you to deliver at both Hull and London, the rate of freight then to be 4s. 1½d. per barrel all round. Freight to be paid on the usual line terms." To which Ronaldson wrote an acceptance, promising to advise Shaw as early as possible what vessels he should nominate for the purpose, and mentioning the "Roehampton," which, however, left Halifax on October 15th without any Apples from Shaw, and the two vessels named were to be at Halifax within a few days. The "Scandinavia" was then proposed, but the "Gallina" was not mentioned.

A correspondence took place between the parties as to the vessels to be chosen for the shipment, which were to be equal to the vessels named "because Apples are tender and require very fast steamers, and if an unsatisfactory boat were given the consequences would be serious." This was on October 31st, and on November 1st Shaw wrote again, "I am very anxious about the Nova Scotia Apples" and that ventilation of the cargo was very important. On November 1st, 1889, Ronaldson wrote

proposing the Gallina, which was chartered to load the Apples at Annapolis, which was described as equal to the Damara and would bring the Apples home in the best condition. Shaw, however, wrote that he did not consider the Gallina equal to the Damara, but the shipment of the Apples took place in the Gallina. There was an earlier vessel, the Scandinavia, which reached London earlier than the Gallina. Six thousand three hundred and fifty barrels of the Apples were shipped on December 13th in the steamer Gallina, and another quantity of 5650 barrels was also shipped by that vessel, making up the 12,000 barrels, which arrived on December 28th, having been kept packed at the port in Nova Scotia for fourteen days until so shipped; the Apples not having been shipped by the Scandinavia, which arrived in London on December 16th, 1889.

Immediately after the arrival of the Apples in the "Gallina" Shaw wrote to Ronaldson—"Price of the Apples, 3s. per barrel lower than when the 'Scandinavia' arrived," and upon that fact made a claim for compensation for not having shipped the Apples by the "Scandinavia," a claim which Ronaldson at once repudiated. Shaw, however, made a claim for compensation for damage caused by the failure to ship by the "Scandinavia" or some ship which would have brought the Apples to London in good time for the Christmas market; and also for the deterioration of the Apples through their having been kept packed for fourteen days prior to the shipment, whereby it was said many of them were made rotten and required to be repacked; it being, it was said, of the nature of Apples so to become rotten if kept packed, and the only means of preventing it being to unpack them and then to repack them. Disputes arose in respect to these claims, which in August, 1890, were referred by agreement to arbitration, and the claims of Shaw were then formulated in "particulars" as follows:—

Loss of 2s. 2d. per barrel on half cargo of 11,300 barrels of Apples, which should have come by ss. "Scandinavia" (arrived in London December 16th, 1889), but which came by ss. "Gallina" (arrived in London December 28th, 1889), 5650 barrels, at 2s. 2d. ..	£612	1	8
To loss on 6350 barrels (making shipment agreed for 12,000 barrels), which should have been shipped in last half of November, and delivered in London in due course, about 15th December, but which were not shipped until December 13th, and not delivered until December 28th, by ss. "Gallina," at 2s. 2d. per barrel ..	687	18	4
Broken barrels, &c., ex ss. "Gallina," as per broker's catalogue ..	140	19	0
To loss through Apples having to be repacked and waste in consequence of being detained in Nova Scotia fourteen days ..	193	11	11
	£1634	10	11

The two last items of claim, however, were abandoned. The arbitrators sat for two days and heard Mr. Shaw's case, and it was supposed that it was substantially closed. Upon an adjournment, however, his solicitor set up a right under the first two heads of claim to show deterioration in the quality of the Apples, and for that purpose to take evidence in Nova Scotia, and to have in the meantime a further adjournment, and during such adjournment Mr. Shaw's solicitors applied to the Judge at Chambers in the vacation (Mr. Justice Collins) to order a Commission to take evidence in Nova Scotia. The learned Judge, however, declined to make such an order. Mr. Shaw now appealed against that decision, but the appeal was dismissed.—(*Times*, November 24th.)



#### THE DECORATIVE VALUE OF THE CHRYSANTHEMUM.

THERE has been a tendency to imply that the chief merits of the Chrysanthemum consist in its adaptability for exhibition purposes and competition for money or other prizes in public, but great as is its value in this way it has qualities fitting both plants and cut blooms for decorative purposes, equalling in general utility the other characters, and likely to lead to a more enduring popularity. We have no plant to approach the Chrysanthemum in its importance for house decoration during the months of autumn and early winter, and it rivals some of the best in the whole year. In its comparatively easy culture for such work, abundance of flowers, gracefulness of form, and variety of colours, it stands as pre-eminently and unquestioned the queen of autumn as the Rose holds undisputed reign in summer. How we could now dispense with the Chrysanthemum it is difficult to imagine, for we have nothing to take its place.

Commercially, also, this phase of its character is very important, as many cultivators have proved, or are proving. The demand for the flowers in the market and at the florists is increasing every year, and some nurserymen who have made a specialty of these plants say that they can make larger returns from the sale of flowers at certain seasons than they could formerly from the cuttings or plants of new and established varieties. The brightly coloured Roi des Préoces, a small early Japanese, has, to my knowledge, brought one grower an astonishing return for the flowers sold. Source d'Or is another which has sold well in the same way, and numbers of others could be named equally useful, the pure white, bright red, and bronze or orange, and golden-tinted varieties being the favourites, the small, or not above medium size, and of light graceful appearance.

Quite recently I had an opportunity of observing what enormous



quantities of these plants and flowers are grown for market purposes. When paying a visit to Mr. Edward Rochford's great establishment at Cheshunt I was shown, in addition to the scores of vineries and the tons of Grapes, a series of houses was devoted solely to Chrysanthemums. Amongst them were three span-roofed houses, each 260 feet long and 30 feet wide, filled with Fair Maid of Guernsey, presenting a perfect foamy sea of white flowers such as probably few have seen. It would be impossible to estimate the number of flowers and buds. It seemed quite safe to talk about millions with such an array before us. Then, too, there were other houses of Source d'Or, Boule de Neige, Belle Jaune, and Lady Trevor Lawrence, enough, as one might well suppose, to stock the world. Yet this is only one of three in the same district, and some of them have even more than this. It is referred to here chiefly with the object of showing what a wonderful demand there must be, because market growers cannot afford to waste time and space on plants that will not sell readily.

So many methods of employing Chrysanthemums are available that it will only be possible to touch upon a few of the principal, and first amongst them is the grouping of the plants for conservatories, rooms, or at exhibitions, and the general arrangements at the latter. Admirable as many of the shows are, there is a certain uniformity, becoming almost monotonous to those who visit many shows, that cannot be entirely avoided; but it is strange that so few attempts are made to introduce anything novel in the classes or arrangements, with the exception of a few challenge vases.

A correspondent has favoured me with the description of a Chrysanthemum Show in New York. The arrangement of the Chrysanthemum plants with backgrounds of crimson-tinted Oak trees, Hemlocks, Spruce, and Irish Junipers, was extremely tasteful, suitable, and effective. From the balconies of Cosmopolitan Hall to the floor these trees were spread out in a trellis, and at intervals platforms were raised, on which the bush plants were placed—those of the Chinese type one side of the hall, and the Japanese opposite. Through the centre of the building were large oval parterres of plants, with specimen Palms and other decorative foliage massed in a large bed near the west end of the building, where the Japanese garden was laid out. As viewed from the balcony above, all the effects in the hall were irregular and informal; there were no straight paths, but it seemed a maze of the fleecy blossoms—a zig-zag of patterns—a crazy quilt of colour and confused devices.

One of the best features of the exhibition was the entire transformation of the hall by the changing about of the plants. A re-arrangement of the foliage plants was the first move made. They were taken from their massings and placed singly among the Chrysanthemums, or in small groups; the effect was to heighten and add a fantastic grace. When the Judges had made their decisions and there was no longer a need for keeping the classes of plants together, the competitive arrangement was changed to a grand ornamental display. All the golden Chrysanthemums were massed in the centre of the hall. The amaranth-tinted ones were put together, and so were the whites, the crimsons, and the red-and-yellow variegated lot that looked like burning bushes, so flame-tipped were the petals. The electric lights were lowered, so they rested like meteors among the plants. An exquisite effect was made with *Draænas*, lifted above white flowers, with a ball of light which seemed tossed up from its fountain-like leaves.

This arrangement, which is the system adopted at most continental shows, is scarcely practicable here, but groups of similarly coloured varieties might be employed. Here is another suggestion from the same source. The choicest standard plants and the new Japanese seedlings were arranged in the Japanese garden, where there were two bamboo summer-houses profusely hung with curios—fans, parasols, umbrellas, scrolls, and panels. Flowering plants were twined in and out of these structures, and each side of them were quantities of cut flowers, baskets richly filled with bloom, and pots of growth on which but one flower had been brought out. The latter flowers were of enormous size and remarkable shapes and colours. Most of them were named after Japanese celebrities. A native Japanese sat in each summer house, where he painted fans and screens, which were sold at reasonable prices.

In grouping Chrysanthemums in conservatories or houses it is seldom that attempts are made to form the smooth even surfaces of blooms too often seen at shows, the only merits of which are the variety and richness of colour and handsome blooms they present to ready inspection. Arranged with some freedom beautiful effects can be produced, and it has been well shown at Brighton that when classes are provided for this style a good competition can be obtained, and a most pleasing break from the uniformity so prevalent in such groups.

Dwarf plants are indispensable for groups of all kinds if only for the front rows, and Mr. Orchard was at one time so successful in this that I quote his system of culture as communicated to my "Chrysanthemum Annual":—"Many cultivators adopt a style of pinching the young plant after it is established in a 60-pot, which checks the height, and then they pinch again in June. That is a good plan to get medium-height plants from 3 feet 6 inches to 7 feet. Others strike them later and pinch once, but the objection to these two plans is—in the former case the young plant is checked just at a time when he ought to be making roots to establish a good foundation; and to the latter, the plants never gain substance enough in a short season of growth from the cutting to the flowering.

The only way to get the plants dwarf is to cut them hard back from 3 to 6 inches the first fortnight in June, beginning with the later flowering varieties, doing a few every day. It requires some boldness to do it at first. It seems such a sacrifice, for up to that time they should have

had the care and attention of plants required to be grown on. To be successful, it is necessary they should be then strong, healthy, and well-established in 48's or 32's, with plenty of good healthy roots. They will bleed a little, but by being kept rather dry a day or two beforehand, and only a slight sprinkling afterwards, they will not lose much.

Care will be necessary to thin the shoots to the required number, and support them with thin sticks, or they will be easily broken. Transfer them into their largest pots as soon as the growths are fairly started, say from 4 to 6 inches long, and feed with liquid or artificial manure as soon as the roots reach the sides of the new pot and are properly established. Take the first bud that shows, and the height of the plant then corresponds with the natural growth from break to break.

Formal banks of beauty are not so desirable as light free arrangements, and when other plants are utilised for the groundwork or margin Chrysanthemums can be employed to excellent purpose for conservatories or in any similar way. As cut flowers the value of the Chrysanthemum is extremely great; in wreaths, bouquets, sprays, baskets and vases charming results are readily produced when a little taste is exercised, and the tendency to form heterogeneous mixtures of colours is avoided.

Whenever Chrysanthemum flowers are employed in this way the shades of one colour should be associated as far as possible. Pure white is best alone in some cases, but yellow, orange, and bronze go well together. Bronze and light and dark red, the various shades of pink and pale red or crimson harmonise, and delicate pink tints also go well with white. The Japanese varieties are generally superior for this purpose, the incurved of the Mrs. G. Rundle type, when not disbudded, produce charming little flowers that can be utilised in many ways.

At most shows prizes are offered for hand bouquets, to be composed solely of Chrysanthemums, with their own foliage and Fern fronds, but very rarely are any to be met with that could honestly be admired. They are far too flat and closely packed to be pleasing, and in many instances a most extraordinary mixture of colours completely spoils the effect. If those who make them would be content to use fewer colours and not wedge the blooms together in a mass, that would be a step in the right direction. Plenty of moss worked in among the stems prevents the flowers from crowding together when bound, while showing up between the latter there ought to be some healthy Chrysanthemum foliage, as well as neat sprays of the Pompon Snowdrop springing up well above the rest. Wire frameworks are objectionable, and there is no reason why presentable bouquets cannot be made without them. Much that has been advanced about bouquets also applies to the class for vases.

Arched stands and small flat dishes with tiny trumpet centres are altogether unsuitable for the purpose, it being hardly possible to effectively fill them with Chrysanthemums. What do answer well—and those who use them never fail to win a prize—are tall, trumpet-shaped vases, without any dish of any kind at the base. This ought to be boldly filled, that is to say, only fine blooms, with long stems and an abundance of good foliage attached should be used, the incurved varieties being quite as effective as the Japanese. Large Fern fronds, intermingled with wreaths of Ivy trailing down, completes a noble vase. In order to be able to lightly fill these large vases it is frequently necessary to fill them with short sprays of Box, this serving to hold the flowers in any position.

It has been urged against the Chrysanthemum that it is either scentless or possesses such an unpleasant odour that it cannot be used in rooms. To meet these fastidious declaimers, it has been discovered that certain varieties possess a slight delicate and agreeable fragrance. Some of the best of them are Progne, a purplish reflexed, the scent of which has been not inaptly compared to Violets; Dick Turpin, an Anemone Pompon, with rosy red ray florets and a yellow centre; and Mrs. Langtry, single, of a pale blush or pinkish colour, one of the most useful decorative varieties that can be grown. The single varieties are all very valuable, and yield such an abundance of choice, varied, graceful flowers, that they ought to be extensively grown wherever cut flowers are required in large numbers.

Perhaps I shall be expected to say something about Chrysanthemums for exhibition, but this subject has been so frequently and fully treated upon, and Mr. Molyneux's excellent little book is within everybody's reach, so I shall confine myself to a few general hints. One very important point at starting is to secure sturdy, well developed, but not too luxuriant cuttings, as they lay the foundation of sound plants. It often happens that novelties are so rapidly propagated that the cuttings become much weakened unavoidably, and the grower will find it a difficult matter to restore vigour to such plants. One friend of mine always has stock plants out of doors from which to obtain his cuttings (except in severe weather), simply because he has proved that these hardy though small shoots, provided they are not stunted, usually develop into the best plants. From the middle of December to the middle of January is a good time for striking the cuttings, but the actual time to a week or so is of less importance than the subsequent treatment.

With the Chrysanthemums, as with everything else, the man who has the greatest interest in his work, the most persistent perseverance to overcome difficulties, and who exercises the closest observation respecting all details, is the one who is most likely to succeed, and success with such a useful plant is something of which anyone may well be proud.

#### SINGLE-HANDED GARDENERS.

In your impression of November 19th a writer asked why I showed in the single-handed gardeners' classes at Putney, and my reply is that anyone can show in the classes above him. A cottager can show in the



amateur section or gardener section, and an amateur can show in the gardeners' classes, and a single-handed gardener can show in the gardeners' classes. If, however, the single-handed gardeners are afraid of the amateurs and cottagers, surely they ought to be placed below the cottagers. Mr. Shea showed in the open class at the Aquarium Show, but I did not see the name of his gardener on the card. I have for years past shown in the single-handed gardeners' classes at Putney with the permission of the Committee, and not without success.

The whole question of competitors wants revision. No gardener who sells cuttings, other than seedlings of his own raising, ought to be allowed to show except in the classes set apart for nurserymen, and no one ought to be called an amateur if he employs any help of any kind, size, or shape in his garden.

No one would object to the exhibitors being allowed to show only in their respective classes, but if a cottager or an amateur is not allowed to show in the single-handed classes or the gardeners' classes, neither should the single-handed gardeners be allowed to show in the gardeners' classes, or the gardeners in the nurserymen classes.—DR. GEO. WALKER, *alias* THE WIMBLEDON AMATEUR.

#### CONFUSION AT EXHIBITIONS.

ON visiting the Bristol Chrysanthemum Show I was surprised to see such a confusion in the arrangement of the exhibits. There did not seem to be a fixed place arranged for any of the classes. The Committee did not seem to have calculated beforehand what space certain exhibits would take; therefore when the exhibitors came to stage their fruit or flowers, as the case may be, no one seemed to know the proper place for them. First one thing had to be shifted, then another, to make room for the exhibits, causing waste of valuable time; whereas if the number of exhibitors had been ascertained in each class, there would have been little difficulty in finding space for the whole of the exhibits. Some little time ago I had occasion to visit one of the National Chrysanthemum Society's exhibitions at the Royal Aquarium, and it was quite pleasing to see how well the arrangements were carried out by the Secretary, Mr. R. Dean. Places were assigned for each class, shown by a large card, and the direction in which the exhibits were to be staged, to the right or left, was indicated. Not the slightest confusion occurred, and the staging went as smooth as clockwork.—EXHIBITOR.

#### NEW CHRYSANTHEMUMS—FLORENCE DAVIS AND VIVIAND MOREL.

I THINK the past season will bear very favourably with any previous ones for thoroughly good new varieties that have been staged at the different exhibitions, especially in the Japanese classes, and I should like to say a word in praise of two which have proved everything that could be desired with me, and grand acquisitions in every way.

Florence Davis was strongly recommended to me last season by that good grower and judge, Mr. N. Davis of Camberwell, and I must say all he then said in its favour fell short of its great beauty and general merits. I have watched the reports of all the shows, but only in one or two places have I seen it mentioned. Such a grand variety should not be kept in the dark, and I strongly recommend all growers who have not already secured it to do so at once. From four plants I secured twelve exhibition blooms, which speaks well for its freedom—in fact, it is as free as Avalanche in producing grand blooms. I staged two of these at Birmingham, where it took "the eye" at once, and was duly noted down by all who "know what they are about." (I should like to mention here in your report of this Show you call it in one place Fanny Davis, which might be taken for F. A. Davis—Jeanné Delaux). The habit is good, growing about 4 feet high. The blooms before expanding are of a light green, which develop into pure white, with long drooping florets, the tips of each slightly curled, which gives it a very pleasing appearance. I should say it is a late variety, and as the flowers are very large (8 inches broad and 10 deep) and slow in opening it should be housed early rather than hurry it with fire heat.

I do not think it necessary to say so much about Vivian Morel, as this has been shown well and frequently, and also referred to in the Journal, only that I can bear out all the good things that have been said in its praise, and intend growing plenty of it next year, at the expense of some of its taller neighbours. One or two others I hope to refer to later on.—RICHARD PARKER, *Impney*.

#### DWARF EXHIBITION JAPANESE CHRYSANTHEMUMS.

I AM surprised that so excellent an authority as Mr. R. Owen should give a list of dwarf exhibition Japanese Chrysanthemums and not include such varieties as the following:—Mrs. Falconer Jameson, Vivian Morel (a great acquisition), Condor, George Daniels, Gloire de Rocher, W. W. Coles, E. Molyneux, and M. Bernard; not to mention less notable varieties seldom seen in exhibition stands. I am pleased to say several firms have varieties (new) on trial intended to add to this list. One (not yet named) only 2 feet high, sent me by Messrs. Clibran of Altrincham promises to be an addition to the limited number of excellent late varieties.—W. J. MURPHY, *Clonmel*.

#### CHARLES GIBSON.

I HEREWITH enclose a bloom of Charles Gibson showing hairy florets. There were two blooms on the plant, but very few of the florets were bristled on the other bloom. I have grown three plants of Charles Gibson this year, and the blooms have been quite smooth on two of them. Has this been experienced with other Chrysanthemum growers?—SUBSCRIBER.

#### FUNGOID DISEASES.

THROUGH the courtesy of the Editor of this Journal I have had the opportunity of perusing "The Journal of Mycology," published by the United States of America Department of Agriculture, vol. vii., No. 1, 1891, edited by the Chief of the Division of Vegetable Pathology, Mr. B. T. Galloway, and assistants. Among other interesting and valuable matter appertaining to fungoid diseases, the "Journal of Mycology" contains description of experiments in combating, and hints for the avoidance of Sweet Potato black rot (*Ceratocystis fimbriata*, *Ell. and Harkn.*), by Dr. B. D. Halsted and Mr. D. G. Fairchild, with plates, showing the "rot" on the tubers, and the life history of the fungus.

This may concern growers in this country but limitedly, still the results obtained have an important bearing on fungoid diseases generally, and are instructive and useful in treating similar pests. The results of the experiments or cultures are found to be:—1, Mycelium present in the diseased roots planted infects the young shoots. 2, Infection may take place either through the medium of spores, or by the growth of mycelium from the diseased areas themselves. 3, Diseased sprouts planted in the field produce diseased roots, which may spread the disease to other hills, either through the soil directly, or by means of the numerous fibrils from other plants. 4, These infected areas, although perhaps inconspicuous at first, grow steadily in diameter, not being checked by digging, and when the Potatoes are stored for keeping continue to grow in the root, and at the same time to produce the various forms of spores. 5, These reproductive bodies, when supplied with sufficient moisture, are capable of infesting, unaided, sound Potatoes through their eyes. 6, Thus one diseased Potato when stored in a bin of healthy ones is capable of infecting all those in the bin, and causing them to rot in a short time.

Those are valuable data, and it is further shown that it is not unlikely that the parasite may inhabit different stable manures, and that a passage through the digestive canal would not kill the spores. In the way of preventives it is recommended:—1, To plant only perfectly healthy seed. This is most essential; as diseased seed will give diseased sprouts, which in turn will grow a crop of worthless Potatoes. 2, Use copper fungicides, keeping the shoots green with it till pulled. 3, Fields impregnated with disease should be added to the regular rotation, that is, not kept under the same crop year after year, thus allowing the infective material to burn itself out. 4, Decaying roots, and the refuse after digging should be carefully removed from the field and burned, as such debris adds to the food of the parasite. 5, Large quantities of farmyard manure probably favour the development of the trouble, since it greatly adds to the decaying vegetable matter of the soil. Where the use of commercial fertilisers can be made to take the place of manures it will certainly be desirable to make the change. 6, It is probable that the spread of the disease in the bin may be checked by dipping the roots in one of the copper mixtures, preferably the ammoniacal solution, before storing for the winter. What effect tobacco smoke or the fumes of sulphur would have in checking the disease in the bins remains to be ascertained.

The foregoing particulars are taken from the "Journal of Mycology," and, though having special application to Sweet Potato (*Batatas edulis*), they are appropriate to tuberous esculents liable to fungoid disease, and should be borne in mind by growers of Potatoes.

Then follows a very important paper by the Editor, Mr. B. T. Galloway, entitled "Experiments in the Treatment of Plant Diseases." The first treats of Grape diseases, and contains results of experiments conducted at Greenville, South Carolina; Vineland, New Jersey; and Neosho, Missouri, the work having special reference to "black rot, which is everywhere recognised as being the most destructive of all Grape maladies." The investigations were conducted with a view to ascertain the value of fungicides, which cannot fail to interest readers of the *Journal of Horticulture*, therefore we extract the following:—

"I.—A comparison of the fungicides given below as regards cost, efficiency, and effects on the healthy foliage and fruit.

"(a). Bordeaux mixture, prepared in accordance with the usual formula—i.e., copper sulphate 6 lbs., lime 4 lbs., and water 22 gallons.

"(b). Bordeaux mixture, prepared the same as a, then allowed to settle, after this has taken place drawing off the clear liquid and drying the sediment, the latter being simply mixed with water when used. The object in using this preparation was to determine if possible whether the Bordeaux mixture prepared in advance was as effective as that made in the usual way. The question has considerable practical importance, as there is an increasing demand for a mixture ready for use. This demand is mostly from small growers who do not care to go to the trouble of buying the copper and lime and making their own mixture.

"(c). Modified eau celeste, containing copper sulphate 4 lbs., aqua ammonia 3 pints, carbonate of soda 5 lbs.

"(d). Copper carbonate in suspension, 3 ozs. to 22 gallons. This being a much cheaper preparation than the ammoniacal copper carbonate solution, it was thought best to give it a thorough trial.

"(e). Simple milk of lime, made by dissolving 3 lbs. of lime in 25 gallons of water.

"(f). Copper acetate, 2 lbs. to 22 gallons.

"(g). Mixture No. 5, consisting of equal parts of ammoniated copper sulphate and ammonia carbonate. Used at the rate of 1 lb. to 25 gallons of water. Mixture No. 5 is practically eau celeste in dry concentrated form.

"(h). Ammoniacal copper carbonate solution, 3 ozs. copper carbonate dissolved in 1 quart of ammonia, and diluted with 22 gallons of water.



"II.—The value of a mixed treatment, consisting of three early treatments of the Bordeaux mixture, and three late sprayings of the ammoniacal solution.

"III.—The value of early against late sprayings. By early is meant the first treatment when the buds begin to swell, and by late the first treatment when the Grapes are the size of bird shot."

Full accounts of the experiments are given with diagrams. From the extended particulars relative to the experiments we gather the following remarkable facts, but it will be necessary to observe that the experiments were conducted at Greenville, South Carolina. "The vineyard chosen by Mr. Howell (who carried out the work) for the experiment was one which had been well cultivated and cleared, but had never before received any treatment for Vine disease, and for three years had regularly lost from 50 to 75 per cent. of its crop by black rot. Besides this it had been invaded by downy mildew and anthracnose." It may be as well to state that none of these fungi have appeared in this country, except it be downy mildew (*Peronospora viticola*) and that not making much headway in our vineries.

reduced the amount of rot to less than 1 per cent., while on the untreated Vines the loss averaged 40 per cent. This was much less than in an ordinary season on account of the dry weather. In such cases about 75 per cent. would have probably been lost. The present season was not one, either, that furnished a good test of fungicides. If more rain had fallen there is little doubt that there would have been more rot on the treated plats, more striking differences in the degrees of efficacy of the different fungicides, and more Grapes actually saved—that is, the difference between the amount lost on the treated and the untreated plats would have been much greater.

"As to the comparative value of the fungicides, the ratios found in the figures as given can scarcely be considered such as will hold for other seasons and in different climates. This season's work has shown that a difference in locality affects the action of fungicides on foliage. For example, the copper acetate, which proved very efficacious with Mr. Howell of South Carolina, burned the foliage so badly in Missouri as to ruin the crop for the year."

The experiments at the other places were practically the same as

Number of Vines, Date, and Manner of Treatment.	Yield of sound fruit per plant.	Average yield per Vine.	No. of rotten berries per plot.	No. of rotten berries per Vine.	Total rot per plot in pounds of sound fruit.	Per-centage of loss.	Total cost of treatment.
	Pounds.	Pounds.					Cents. (½d.)
Fifty Vines treated April 30th, May 15th, and 30th, and June 14th, with Bordeaux mixture .....	260	5.20	275	5.50	1.56	0.60	54
Eight untreated Vines .....	23	2.87	2464	308.00	14.00	38.00	00
Fifty Vines treated, on dates given above, with ammoniacal copper carbonate solution.....	255	5.10	236	4.72	1.34	0.60	22
Eight untreated Vines .....	20	2.50	2816	352.00	16.00	45.00	00
Fifty Vines treated, same dates, with Bordeaux mixture and ammoniacal solution.....	255	5.10	188	3.76	1.06	0.40	40
Eight untreated Vines .....	20	2.50	2827	353.00	16.00	45.00	00
Fifty Vines treated with modified cau celeste .....	260	5.20	68	1.36	0.33	0.10	Not gvn.
Eight untreated Vines .....	24	3.00	2466	308.00	14.00	37.00	00
Fifty Vines treated with copper carbonate in suspension .....	246	4.92	268	5.36	1.52	0.60	11
Eight untreated Vines .....	18	2.25	2998	375.00	17.00	48.00	00
Fifty Vines treated with milk of lime .....	190	3.80	8599	172.00	48.86	20.00	03
Eight untreated Vines .....	20	2.50	2819	352.00	16.00	45.00	00
Fifty Vines treated with Bordeaux mixture prepared in advance .....	230	4.60	367	7.34	2.08	0.90	54
Eight untreated Vines .....	22	2.75	2126	266.00	12.00	35.00	00
Fifty Vines treated with Bordeaux mixture, one-half strength prepared in advance.....	180	3.60	8730	174.60	49.60	21.50	27
Eight untreated Vines .....	17	2.12	2372	284.00	13.00	43.00	00
Fifty Vines treated with acetate of copper solution .....	260	5.20	227	5.54	1.57	0.60	Not gvn.
Eight untreated Vines .....	20	2.50	2176	272.00	12.00	37.50	00
Fifty Vines treated with mixture No. 5.....	255	5.10	113	2.23	0.63	0.25	Not gvn.
Eight untreated Vines .....	25	3.12	2472	309.00	14.00	36.00	00
Fifty Vines treated May 17th and June 2nd with Bordeaux mixture, late treatment.....	210	4.20	2112	42.24	12.00	5.00	22
Fifty Vines treated May 25th and June 9th with Bordeaux mixture .....	200	4.00	2040	40.80	11.59	5.50	27
Fifty Vines treated May 17th and June with ammoniacal solution.....	220	4.40	2618	52.36	15.00	6.00	11

"The variety selected for experimental treatment was the Concord, because of its regular habits of growth and fruitage, and its unvarying susceptibility to rot." The vineyard was divided into plots:—"Three plots of fifty Vines each, containing no sub-plots; eleven main plots containing fifty Vines each, having in the centre a sub-plot of eight Vines each." The diagram given in the work shows the arrangement of the plots, but suffice for our purpose to state that the variation in regard to the plots was for the purpose of bringing out the value of early spraying as will be shown later." "The first spraying was made ten days before blooming, and would have been applied earlier but for a delay in some of the chemicals. The weather had been dry for two weeks and no disease was showing on the leaves. The next day, however, a rainy spell set in, lasting five days. The second treatment was also given on a clear day, and the first traces of black rot had been discovered the day before. There were rains on May 18th, 19th, 20th, and then none until June 1st. The day after the fourth treatment there was a light rain (June 15th), and this was followed by a drought, which put an end to any infection of black rot for the season.

In order to get a fair estimate as to the value of the various treatments the diseased and the healthy berries on both the treated and untreated plats were carefully counted and weighed. The weight of diseased fruit was estimated by counting, in several cases, the number of berries in a pound of sound fruit, obtaining an average number and dividing the number of diseased berries by it. The result of this work is shown in tabular form above.

The foregoing table explains itself. "Seven of the fungicides used

those given in detail in the preceding notes, and the entire work is summarised as follows:—

"I. All things considered the Bordeaux mixture still heads the list as a preventive of black rot.

"II. The Bordeaux mixture prepared in advance, according to the directions already given, is not satisfactory, and is therefore not worthy of further use.

"III. Copper carbonate in suspension and milk of lime are comparatively useless as preventives of black rot and other Grape diseases.

"IV. Copper acetate has fungicidal value, but in most sections it is likely to injure the foliage.

"V. The cheapest and most effectual remedy for black rot and downy mildew (*Peronospora viticola*), taking everything into consideration, is the ammoniacal solution of copper carbonate. Next to this is a mixed treatment, consisting of two or three early sprayings of Bordeaux mixture and the same number of late treatments with ammoniacal solution.

"VI. Mixture No. 5, while possessing value as a fungicide, is likely to injure the foliage. Until this difficulty is overcome its use on a large scale cannot be recommended.

"VII. Early sprayings are absolutely necessary to insure the best results in the treatment of black rot."

Although the experiments relate to black rot and other Grape diseases little, if at all, prevalent in this country, they are valuable as showing the importance of proper, efficacious, and early treatment of fungoid diseases generally.—G. ABBEY.

(To be continued.)





**EVENTS OF THE WEEK.**—A meeting of the Linnean Society takes place to-day, December 3rd. On the 4th there is a meeting of the Dundee Horticultural Association, and on the 5th of the Preston and Fulwood Horticultural Society. On Tuesday, December 8th, there will be a meeting of the Royal Horticultural Society at the Drill Hall, Westminster, when there will be a lecture and discussion on Hellebores. The annual meeting and dinner of the National Rose Society take place on the 9th. The December Show of the National Chrysanthemum Society will be held at the Royal Aquarium, Westminster, on the 9th and 10th. Bulb and plant sales take place nearly every day at Messrs. Protheroe and Morris' rooms, Cheapside, and at Messrs. Stevens' rooms, Covent Garden. There will be an important sale of *Cattleya labiata* at the former place on the 4th by order of Mr. F. Sander.

— **NATIONAL ROSE SOCIETY.**—The annual general meeting of this Society will be held at the Horticultural Club, at three o'clock on Wednesday, December 9th, and the annual dinner at six o'clock the same evening at the Hotel Windsor. The Very Rev. the Dean of Rochester will preside on the occasion.

— **THE "HORTICULTURAL DIRECTORY."**—This extremely useful publication is now ready, and can be procured from the publisher of the *Journal of Horticulture*, 171, Fleet Street, London, price 1s., post free 1s. 3d. It contains a vast mass of valuable information to all interested in gardening, including calendar, postal and other tables, useful garden recipes, certificated plants, the names and addresses of British and continental seedsmen, nurserymen and florists, country seats, names and addresses of gardeners, horticultural builders, horticultural societies, and a considerable amount of miscellaneous information.

— **NATIONAL CHRYSANTHEMUM SOCIETY.**—The early winter Exhibition of Chrysanthemums, which takes the place of the midwinter Show formerly held in January, will take place at the Royal Aquarium on Wednesday and Thursday, December 9th and 10th, and the Floral Committee will meet at 2 P.M. on the first day.

— **MESSRS. JAMES CARTER & Co.** write:—"When reading the very interesting HOLIDAY NOTES on page 445, by Mr. Castle we are gratified to observe special mention made of the lawns upon Baroness Rothschild's estate, and which have been produced exclusively with our Invieta Grass seed, especially prepared for this particular purpose."

— **CHISWICK GARDENS.**—A new span plant house has recently been erected at Chiswick Gardens, and is worth going to see. It was built by Messrs. J. Weeks & Co. of Chelsea, to whom the Council of the Royal Horticultural Society have accorded a special vote of thanks for its "economy and excellence."

— **HULL CHRYSANTHEMUM SHOW.**—Mr. H. H. Taylor informs us that he was the winner of the fourth prize in the group class, and not Mr. Wheatley, as stated in our report last week.

— **PEAR-SHAPED APPLE.**—Mr. Spence King sends us from Ipswich a true Pear-shaped Apple of full size. It was gathered from an espalier tree in the gardens of Mr. Alfred Wrinch, of the well known firm of Wrinch & Sons, horticultural engineers. An Apple of the normal type sent from the same tree resembles the Bedfordshire Foundling. The cause of the change in shape is not known, and may, or may not, occur again on the same tree. Three years ago a tree at Ipswich bore several Pear-shaped Apples, one of which we figured, but has since satisfied itself by producing ordinary round fruits.

— **DOUBLE MIGNONETTE.**—Mr. W. W. Pettigrew refers to a Double Mignonette in your issue of the 26th ult. His description appears to correspond with a plant sent out by Mr. Balchin in 1881, which I described in a paper read before the Linnean Society, December 1st, 1881. It is a proliforous state, so Mr. Balchin named it *Reseda odorata alba prolifera*. Whether it is still in the market I do not know. I enclose a copy of my paper for your acceptance.—G. HENSLOW.—[The paper contains an excellent botanical description of the plant referred to, and the illustration represents a branching spike which differs from ordinary varieties of double Mignonette we have seen grown in gardens. It has been sent to Mr. Pettigrew.]

— **GRIMSBY CHRYSANTHEMUM SHOW.**—Mr. Chas. Colebrooke, nurseryman, Great Grimsby, notices that he is mentioned in the *Journal* as having taken third prize for a group of plants, whereas it should be second.

— **GARDENING APPOINTMENTS.**—Mr. A. Burgess, for the last six years head gardener to Major Browne, Doxford Hall, Chathill, Northumberland, has been appointed head gardener to M. Walton, Esq., Grove Park, Kingsbury, Middlesex. Mr. W. Mabbott, foreman at Ewenny Priory, has been appointed head gardener to E. P. Martin, Esq., Gwernllwyn House, Dowlais, Glamorgan, South Wales.

— **WE** are sorry to hear of the death on the 22nd of November of Mr. FRANZ KRAMER, head gardener to Herr Legationsrath Rucker-Jenisch of Flottbeck-Hamburg. Mr. Kramer had for about thirty years charge of one of the most renowned continental Orchid collections, that of the late Senator Jenisch. He was well known in English horticultural circles, and generally esteemed both for his character and abilities as a gardener. The situation having been held by his family for several generations, is likely to be filled by his eldest son.

— **CANADIAN AND AMERICAN APPLES.**—The transatlantic Apple trade has assumed great proportions this year. The imports in Liverpool for the season were 369,880 barrels, as against 96,628 barrels during the corresponding period of last year. The principal portion of these supplies has been Canadian, the prices of which range from 15 to 20 per cent. more than for those of the United States. The fruit is described as of exceptionally fine quality, well-packed, and the supply, great as it is, by no means exceeds the demand. A barrel contains a 140 lbs. or a hundredweight and a quarter, the prices ranging from 10s. to 20s. a barrel last week in Liverpool. Evidently the home supply of high class marketable fruit is quite inadequate to consumptive demands.

— **NOVEMBER WEATHER IN HERTS.**—The following report of the weather during November, 1891, from observations taken at Hamels Park, Buntingford, by Mr. E. Wallis, gardener, is sent for insertion. The weather during the past month has been of a very sunless character, and a fair amount of rain has fallen, which has kept our heavy soil in an unworkable condition. Tree planting and such work has been at a standstill. There has also been almost a total absence of rain. Rain fell on seventeen days during the month; maximum twenty-four hours being 0.50 on the 10th; minimum 0.02 on the 11th. Total for the month, 2.37; against 2.66 in 1890.

— **RAINFALL IN SUSSEX.**—The total rainfall at Cuckfield, Sussex, for November was 3.75 inches, being 0.8 inch above the average. The heaviest fall was 1.0 inch on the 10th. Rain fell on nineteen days. The maximum temperature was 54° on 1st and 10th; the minimum 23° on 25th. Mean maximum 47°, mean minimum 35°, mean temperature 41°. A mild, damp, sunless month. The latest formed runners on Strawberries were in bloom when cleared out. Such has never been observed before. The heavy rain on the 10th stopped all work on the land, and it has been almost impossible to get such work as earthing Celery, lifting Seakale, and other crops accomplished.—R. I.

— **GROWING VEGETABLES.**—Mr. A. Watkins sends us a copy of his "Amateur's Guide" on the above subject, and asks us what we think of it. We think that some of the best teaching is on salads, and the following paragraph is a citation from the pages:—

— **SALAD AND SALAD DRESSING.**—"The vegetable ingredients of a salad need not be many. They may consist of all Lettuce or all corn salad, or all Endive, &c., &c., with the addition of a little sliced Beetroot and Chervil (very little of the latter), and a few leaves of Tarragon, with a few spring Onions to taste; or there are twenty or thirty different vegetables suitable for making salads of, but the great secret rests in the way these articles are prepared. If washed, they should be most carefully dried with a cloth—every leaf separately; or instead of washing, clean all grit off with a slightly wet cloth, then tear up (not finely) with the fingers instead of cutting up with a knife, then add the dressing, which should consist of three parts finest Lucca oil; this should be quite smell-less and tasteless, and one part vinegar, a little made mustard, and salt. For a salad, say for three or four persons, consisting of an ordinary salad bowl two-thirds full of Lettuce, &c., take a large eup, into which put half a good teaspoonful of salt, and same of made mustard, then one tablespoonful of vinegar, and mix all up



together well with a wooden or silver fork, after which add three table-spoonfuls of best Lueca oil, beating this well up with the vinegar, &c. The dressing now made can be poured over the Lettuce, &c. The writer trusts that as many of his countrymen who read this will bear in mind that a salad is worth eating for health sake, and is worth making and dressing properly, when it becomes a palatable and enjoyable food, the first and most important thing to remember being to have the component vegetables dry, and to use the very best oil. All other things are secondary, and, in conclusion, a salad should be made and eaten at once, as soon as the dressing has been added."

— **DOUBLE MIGNONETTE.**—We are much interested in your remarks last week concerning White Mignonette, but would take the liberty to remind your readers that the true White Mignonette is always double, and though sterile in consequence of the stamens being developed into petals, these beautiful flowers may be easily raised from the seed of the few single flowers always present in a carefully selected strain. We have for many years cultivated a stock of Mignonette which produces a large percentage of these beautiful double white flowers, and although it is of course impossible to get them all true in the same way, as it is impossible to get double Petunias all true from seed, it is a strain well worth growing. These lovely flowers can then be propagated from cuttings if desired.—**SUTTON AND SONS.**

— **PRIZEWINNERS AT SHOWS.**—As an old reader of the Journal "from my youth up," and to which I owe many useful hints, kindly allow me to make an addition to your excellent report of the Bradford Chrysanthemum Show (page 451-2). I took the first prize in the open classes for two bunches of white Grapes with Muscat of Alexandria, and was first for two black with Gros Colman in competition with seven other exhibitors. May I also add that I was first and third for white and black Grapes in the local class at Leeds, five and seven entries (page 435 of Journal)? This is my first time of showing Grapes, and to be not reported in each case appears to me at least rather peculiar.—**TOM NEWBOULD, Cragg Royd Gardens, Rawdon.**—[We congratulate "Tom" his success, and, at the same time, explain that it is impossible to read the names of even half the prizewinners in the multitudinous shows at November shows.]

— **AT the annual dinner of the Highgate and District Chrysanthemum Society, Mr. H. R. Williams, the President, congratulated the members on the large number of friends they had present at their gathering. In reference to the late Exhibition which they had held, he was of opinion from his own knowledge that it was an excellent Exhibition, and of the best that he had seen in connection with societies that he knew of, and he hoped that the future shows would not only rival those that had passed, but would surpass them. He remembered the circumstances under which Chrysanthemums had been grown during the year, and he believed that gardeners would know they needed what was termed "a damping off." He believed there was at the present time 2400 or 2500 varieties of Chrysanthemums. He had seen a large number of varieties in connection with their late Show. It was his privilege, as he believed it was that of many others, to see the large Show at the Aquarium, and that gave them some idea as to the number of Chrysanthemums that were grown. Mr. Williams proceeded to enter at some length into the growth of fruit, and said we should not be so much dependant upon the foreigners as we were at present. So far as he could see there was nothing to prevent English Apples from being cultivated and kept into April and May, when they could be sold at a moderate price. In connection with the Show at Highgate recently, it did not only the Committee but others a great credit, and the neighbourhood was quite exalted by it. He called himself a Hornsey man, but as they knew, that included Highgate, for the latter was part and parcel of the same place. He considered it his duty, and the duty of everyone who resided in that particular neighbourhood, to uphold the dignity of the parish in which he lived, and he believed there were few parishes like the parish of Hornsey. He believed in its health, and he believed in a variety of causes which helped to make the place a most enjoyable one in which to reside. It was his privilege to congratulate them upon their success with the growth of the Chrysanthemum, and also the cottagers for the splendid exhibition of vegetables which they had got together. During the evening the President presented the amateurs' silver challenge cup (for the second time) to Mr. D. B. Crane, and a like honour was bestowed on Mr. C. Halsey, who exhibited in the cottagers' class. The President's medal was presented to Mr. J. Brooks, gardener to W. Reynolds, Esq., J.P.; whilst Society medals were also awarded to Mr. T. Tuck, T. Gillman, and D. B. Crane.**

— **WINTER AND SPRING FLOWER BEDS.**—If the beds are to be filled with hardy and spring flowering plants, shrubs and bulbs, advantage should be taken of the first dry time to complete this work. In many cases a thorough cleaning of the beds is all that is necessary, digging doing more harm than good. There is quite a wealth of flowering plants available, but these ought always to be well prepared for transplanting. Polyanthus are particularly good, the strains being greatly improved of late years. These are to be seen at their best in moderately large beds, masses being more effective than single lines, and if they can be given some good fresh loamy soil they will flower grandly next spring. Primroses again are much improved, and either beds or double lines of these are very showy. Masses of Myosotises, Wallflowers, Alyssums, Saponaria calabrica, Virginian Stocks, and Gypsophila elegans, appropriately edged by either Daisies, Violas, Aubrietias, Arabises, Nemophila insignis, and Silenes are also very showy during their flowering season. Much, however, depends upon the size of the plants put out, and they ought to be arranged rather closely together, as many of them will not increase in size. Small, coloured Beet, Golden Pyrethrums, variegated Thyme, Stachys lanata, and other hardy plants used in the summer arrangements may well be retained in their present positions or planted afresh, and single pieces of Yucca recurva and small clumps of Iris foetidissima variegata, are of good service for dotting. Most of the foregoing will require to be moved carefully so as to preserve a good ball of soil with the roots, and to be replanted firmly. Not many of the beds will require to be watered this season, but if there are any dry spots well water in the plants filling them.—**SOMERSET.**

— **EYNSFORD HORTICULTURAL SOCIETY CHALLENGING KENT.**—An interesting account is forwarded us of the proceedings at the dinner given to members of the Eynsford and District Cottage Gardeners' Society at the "Five Bells Inn," by Messrs. Cannell & Sons of the Swanley and Eynsford Nurseries. An invitation had been circulated among the members of the society to bring to the dinner each a dish of hot cooked Potatoes, and the first business consisted of "sampling" some twenty-five dishes of the vegetable and deciding on their various merits. After a careful test, the palm was awarded to a new variety raised by Mr. Robert Cannell, and known as "Our Seedling," the next in order of merit being Cannell's Victory, followed by White Beauty, Snowdrop, and American Rose, in the order named. After the tables had been cleared, Mr. H. Cannell occupied the chair, and Mr. J. D. Abbott, Sir W. Hart-Dyke's gardener, the vice-chair. The Chairman, after expressing the pleasure it gave him to meet the members of the society, said he had decided to offer £6 in prizes at the Society's show next year, and it was for those present that night to decide the terms of the competition. The Vice-Chairman, in proposing "That the best thanks of the Society be given to Messrs. Cannell for their generous offer," said he was sure that every member would agree with him that it was a great honour for them to have such eminent horticultural authorities as Messrs. Cannell among them, and he was sure the Chairman's able address would stimulate them to further efforts than they had yet made. It was eventually decided that the competition should take the form of a collection of eight varieties of vegetables, selected from the exhibits of the Eynsford Society on the day of the Show, matched against a similar collection of eight varieties exhibited by any other similar society in Kent, the prizes to be divided as follows:—First prize, £3; second prize, £2; and third prize, £1; the proviso being inserted that no one society should take more than one prize. The particulars of the special prize competition will be forwarded to all neighbouring societies, and it is hoped that a good show on August 17th next will result.

#### AMERICAN COWSLIPS.

SOME of the members of the Dodecatheon genus have been introduced into this country from the western hemisphere more than a century, and the American Cowslips are among the handsomest of hardy flowers. Why they are called by this fanciful name is not so easily understood. Certainly they belong to the same family as the Cowslips, but they have no resemblance whatever to the latter flowers. They belong to the Primulaceæ, and in growing them it is most beneficial to associate them with such plants as Primulas, Soldanellas, and Cyclamens. Where any of these genera will flourish they are equally happy.

If a bed is set apart after due preparation for Primulas the Dodecatheons may be depended upon to flourish as well. It is necessary that the position selected should be a moist and shady one. We have



seen Primulas planted in sunny positions, and unless constant and copious supplies of water are given them during a dry season they are literally baked. They succeed remarkably well on the rockery, planting

soil. With that treatment, however, we do not agree, knowing well that although they thrive in light peat soil, at the same time the result of experience is greatly in favour of employing light loamy soil



FIG. 88.—AMERICAN COWSLIPS.

them in shady places, readily establishing themselves, and flowering very freely.

Some growers recommend for their successful culture light peaty

leaf soil, and sharp sand, which is also an excellent soil for most of the Primulas. Planted on the rockery in a small portion of that soil they will succeed well and the result will be satisfactory.



The typical forms of *Dodecatheon* are all natives of North America; some of the varietal forms of *D. Meadia* may have originated in our gardens, or have been introduced as natural varieties, since, like almost all the genera of *Primulaceæ*, they are easily worked upon either by artificial or insect agency. They are all perennials, easily increased by division of the rootstock or from seed, although the seed if sown in spring is frequently slow in germinating—in fact we have had it germinate after being in the pots twelve months. The seed should be sown as soon as ripe, but if purchased from a seedsman it is as well not to discard it until all probability of its germination is past.

The plants produce erect racemose spikes of pendulous *Cyclamen*-like flowers during the early summer months, with the segments of the corolla sharply reflexed. The generic name assigned to these plants by Linnaeus is very absurd, as it literally means "twelve divinities," and like a multitude of other names the similarity or associations of the subjects in question with those represented only rests in a very remote region of the imagination. Below are enumerated some attractive species and varieties.

*Dodecatheon integrifolium* is widely distributed over North America, varying to some extent; it grows from 9 to 12 inches high, producing numerous spikes of bright crimson flowers, which last a considerable time in beauty. This is as handsome and durable as any of them.

*D. Jeffreyanum* is a more recent introduction than the last; it varies in height from 1 to 2 feet, usually growing about 18 inches high, producing strong scapes of bright rosy purple flowers, which are also rather larger than those of the last.

*D. Meadia* is the most common of the series, and is frequently known as the "Shooting Star of the West." It is very widely distributed throughout North America, and there is a large amount of variation, which has originated the establishment of many varietal forms. The typical form produces scapes about a foot high, bearing several flowers of lilac or rosy red colour. It is a very valuable species, and will thrive well in ordinary borders if a select position is given to it and a little attention. For growing in pots it is valuable, and the cultivator is well rewarded.

Varieties of this species worth growing are *album*, which is similar in all respects to the type, but has white flowers. *Elegans*, a charming variety; the flower scapes are freely produced, bearing several large, bright rosy lilac flowers. This is also a vigorous grower. *Carneum*, with very delicate blush flowers, produced in very large umbels. *Giganteum*, a tall-growing variety 18 inches high; the umbels large, bearing dark rose-coloured flowers. The American Cowslips represented in the illustration (fig. 88) were grown by Mr. Ware at Tottenham.

### INSECTIVOROUS PLANTS.

BEFORE a large audience at the weekly meeting of the Richmond Athenæum in the College Hall last week, the Rev. Professor Henslow, M.A., F.L.S., delivered a lecture on "Insectivorous Plants." The Rev. Astley Cooper presided. The Lecturer said that the subject was of extreme interest, and as in many similar cases they were indebted to Mr. Charles Darwin for a large amount of information on the subject. Very little had been added to the information given in his book on "Insectivorous Plants," and those who desired further information on the subject he referred to that book. In former days it was supposed to be the great distinction between animals and plants, that plants lived upon the mineral kingdom and animals lived upon the vegetable. A very large number of plants lived upon the mineral kingdom, water, gases, and things dissolved, but many can also catch flies and insects, and sometimes seeds which happen to drop upon them, and devour them. This opened our eyes to the fact that the process by which they do it must be very much like what animals and we ourselves do. The insectivorous plants were found in all parts of the vegetable kingdom. Botanists divided up plants into families, and considered all plants in one family to have a certain amount of affinity. They believed that they all came down from some ancestral form and were related. But the insectivorous plants were scattered all over the vegetable kingdom, and had no other affinity at all. The process by which they secured their prey was sometimes something like a rat-trap, sometimes a tube into which insects crawled and could not get out, sometimes a little box with a kind of lid, while others secreted a gummy fluid. These methods were found scattered about through the different families, one family adopting one method, one another, and sometimes it was found that a method adopted in one family reappeared in another. That opened out the question how had all these things arisen? The general idea was that this power had arrived somehow or other to be the common property of all plants of the vegetable kingdom; that there was in every plant a living matter called a protoplasm, which had the power of acquiring carnivorous habits under certain conditions. This would show that there was unanimity running through the whole of the vegetable kingdom. Most of the insectivorous plants were thousands

of times larger than their prey, but there was a large number of insectivorous plants which were much smaller than their prey. In that case they ate them in a different way, and these were called parasites.

The little "Sundew," which would be found growing on Hampstead Heath, was an insectivorous plant. It was found in boggy places, growing amongst the bog moss, where it was very wet, and had scarcely any roots. It produced round leaves upon long stalks, and ultimately flowers. On a bright sunny day the leaf, which is green, is covered all over with what looks like very stout hairs. Mr. Darwin suggested the term tentacles, as they were not strictly the same as hairs upon plants. Every one of them terminated with a globular head, which secreted gum. This glistened in the sun, and they thus got the name of Sundew. That was its condition when it was ready to catch flies. It was unknown what attracted insects, but insects were constantly found on them. If a person took a minute fragment of hard-boiled egg or little bit of meat and laid it on the top of one of these long tentacles, the food immediately sank through the gum and reached the gland, as botanists called it, and in a very short time a curious phenomenon took place. The tentacle began to secrete, the gummy fluid became acid, and the tentacle began to bend in slightly towards the middle, carrying the particle of food which had been placed upon it into the centre of the leaf. The glands instantly began to pour out the acid as well, and what was still more remarkable, though none of the other tentacles had been touched, they all knew that there was something to eat in the middle of the leaf, and would slowly bend over until every one of them had placed its gland upon the bit of meat that had been put there. All began to pour out this acid, and they did it before they touched the meat—their mouths began to water, to use a metaphorical expression. It was a kind of reflex action caused by the irritation set up. The same effect was caused, said the Professor, when a human being began to eat anything. After everything had been digested which the plant could digest the plant resumed its normal habit, what remained of the fly, or whatever it was, is thrown off, and the leaf is ready for another prey. It had been asked what was the use of this food? could not the animal live without it? Dr. Francis Darwin, with a view to testing this, experimented with two lots of insectivorous water plants. One lot he fed regularly, and the other lot he gave nothing to but the water they grew in. The plants that were fed looked much better than the others. The weight of their seed was as 157 to 100, the number of their seed was as 141 to 100, and the number of capsules produced was as 194 to 100. This showed that the great effect lay in the reproductive process. Parasitic plants, such as Broom Rapes, Dodders, and others lived on their hosts, and while they never made any green leaves always abounded in an enormous quantity of seeds. The benefit in the fed plants was in the reproductive process, the foliage part became terribly degraded and vanished altogether.

A curious thing was that what was indigestible to a human being had the same effect on a plant. If a piece of cheese was put on the leaf the plant would pour out an enormous quantity of acid in order to manage it. It was the same with them. They took cheese as a rule after dinner, when the fluid secreted to digest the cheese attacked the other food and left the cheese undigested. He next dealt with a plant which was found abroad called "Venus's Fly-trap." Each leaf was fitted with a kind of winged stalk. There were prominent bristles on the inner face of each half of the blade. On the slightest touch the blades collapsed and went together like a rat trap. They did not at first close very tight, and a small insect might escape; but if a blue-bottle got in the more it struggled the tighter the blades closed, and it could not possibly get out. This action bore some analogy to the action of a human muscle. Having described the action of the Sensitive Plant when touched he passed on to a little plant which lived much in water—the Aldrovanda. It had a large quantity of bristles all over the middle, covered with glands, and groups of four cells. If the plant had got any little water prey the glands secreted. Then there was a little water plant generally found in muddy ditches. It had little black knobs that were once supposed to be floats, but were now known to be traps for catching insects. The little hollow bladders with hairs protruding made something of a hollow cone. When insects got into the hole it was impossible for them to get out again, as there was a flap which covered the hole, which they could not lift up. That plant had got no glands with which to secrete the digestive fluid, but instead was covered all over on the inside with quadrid process. Nothing it was now known could decay without the bacillus or microbe to do the work. Those microbes, of which we heard so much, set up a ferment. Thunder weather was a very favourable condition for the aggregation of microbes, and thus it was that the milk went sour so much more quickly. Of those insectivorous plants some required microbes to bring out putrefaction in the animal, and those quadrid processes absorbed the decayed food. Another plant was one called the Bladder-wort, and another the Butter-wort. They were found abundantly in the west of England and in Wales. The leaves were covered all over with glands, and the glands looked like complicated buttons under a microscope. Their cells radiated from a centre, and the crimped-in edges stood on a little pedestal or stalk. If a fly or anything else fell upon it the margin of the leaf began to roll over, and enclosed the insect.

The fermenting glands were the next things in plants. Very often they secreted oils, as in Lavender, and they were believed by botanists in other plants to be the means of easting off excretions which the plant did not require. There was a foreign tree called the Papaw, and it was a common habit to take the leaves of this tree in which to wrap tough meat. The plant had a power of secreting a nitrogenous ferment, which,



coming into contact with the meat, made it tender. It was just the commencement of digestion by the plant. The tree was now made use of in what were called Papaw pills for indigestion. There was a family of plants called the *Sarracenia*. On examining the interior it was found that the ledge was covered with hairs. Then there was a number of little glands which secreted honey and attracted the insects. As soon as the insect got on the hairs these gave it no foothold, and it had to go downwards. Under certain atmospheric and other conditions insects and flies got caught in such enormous numbers that they died, decayed, and the whole pitcher rolled to pieces. There was also what was called the true Pitcher-plant. *Nepenthes* was the name of it. It was found in the Malay Islands, where it abounded. It secreted water, and the insect was drowned. The insects got caught in great quantities, and there was no doubt whatever that the plant absorbed them. With respect further to the ferment process, it was the same which we saw in operation in seeds which were sown in the spring or in the winter. It was a wonder to many how a seed with no root could remain in the soil without nourishment. But it did not go without nourishment. A grain of Wheat possessed the vital principle in a granule at the end. The rest was that upon which this vital principle was sustained and which caused it to send forth roots downwards, and to sprout upwards into the sunlight and air. The lecturer then gave the principal components of Wheat, and pointed out that the least nutritious part was that which went to form white bread. Our digestive organs did exactly the same thing as the embryo in a plant. When we called ourselves human beings there was no essential difference. There was unity with diversity running throughout the whole.

Much interesting discussion followed the lecture, and a cordial vote of thanks to Mr. Henslow concluded the proceedings.



GOOD VARIETIES OF ROSES.

ALTHOUGH the lateness of the season deprived us of outdoor Roses in quantity till the middle of June, we have had no reason to complain of either the quantity or quality of the blooms at our disposal since that time, as we have been able to cut a continuous succession up to the present time (October 23rd), and it would be hard indeed to find any other hardy plant, shrub, or tree which would yield such a long succession of fine flowers. It is therefore no wonder that the Rose still maintains such a firm hold on the affections of the British people, combining as the flowers do in so eminent a degree the three essential qualities which all flowers require to enable them to approach a high standard of perfection—viz., a pleasing scent, good colour, and fine form. The scent of the Rose is acknowledged to be perfect, the colours of some of the varieties are among the loveliest, and the half-opened buds of many kinds of Teas are such models of exquisite form, that no one could suggest an improvement. Add to these good qualities the hardiness of the plant which bears these floral beauties, and there seems no reason to doubt that the Rose will still remain the queen of flowers. Here Roses are great favourites, and are preferred to all other flowers for the embellishment of the breakfast table, and for placing in small specimen glasses to be arranged in groups according to their colours. In consequence of the great demand for them we grow them extensively, and give them special attention. All varieties are prized, and many old kinds that are seldom met with are cherished here for the wealth of bloom they produce or for some special quality they possess. Although old Roses are grown in quantity and well cared for new varieties are not neglected; the aim is to get plenty of Roses and plenty of variety among them, and being favoured with many warm sheltered spots, where climbing kinds can be trained against walls, we manage to have a long season for Roses in the open air. Even now we have quantities of fine Teas in positions so sheltered that they will require very sharp frosts to injure them. Now that the planting season has arrived a few remarks on some sterling kinds may be of service to readers of the Journal who contemplate planting.

Among Hybrid Perpetuals A. K. Williams has with us produced some exceptionally fine flowers of good form, and being a vigorous grower should be in every collection. *Boule de Neige*, though only a small flower, is the purest white Rose among this section that I am acquainted with, and produces quantities of flowers throughout the summer, and is also a good late bloomer; flowers are even now opening daily on bushes in an open and exposed position. Captain Christy is a very free-flowering kind of a soft flesh colour, but unfortunately the flowers with us do not open well, the outer petals becoming slightly browned before they are fully developed, while other varieties growing beside them thrive remarkably well. *Queen of Queens* and *Madame Marie Verdier* produce flowers of an exquisite rose colour, which seem to be always admired, and deservedly so, their colours appear so fresh and pleasing. *Dupuy Jamain* and *Fisher Holmes* are fine deep coloured flowers of good form. The finest of all crimson scarlet flowers with us this season has been *Mrs. Harry Turner*, being good alike in size, form, and colour; it has given us the best blooms of the season. That old favourite, *Général Jacqueminot*, still attracts great attention, and surpasses many more

recent introductions. John Hopper is one of the most abundant bloomers, the flowers being of a pleasing shade of rose. Jules Margottin has both a peculiar and pleasant scent, and a bright cheerful colour; and the beauties of *La France* are so well known as to need no farther comment. *Louis Van Houtte* is conspicuous and beautiful on account of its fine broad petals and good form. *Marquise de Castellane* is an unique Rose, of a bright rose colour, tinted with silver.

*Merveille de Lyon* is the grandest of all light coloured Roses, the flowers being of extra large size, well formed, and the growth made being very vigorous. Other fine varieties are *Pride of Waltham*, flesh colour; *Prince Camille de Rohan*, dark crimson; *Sénateur Vaisse* and *Thomas Mills*, both bright red; and *Ulrich Brunner*, flowers very large, cherry red.

#### TEA-SCENTED.

Although the flowers of the many varieties in this section are not so showy as the Hybrid Perpetuals, their delicate, waxy-looking petals, which possess so many beautiful tints of colour, and their delicious scent cause them to be more highly prized than their hardier companions.

*Anna Olivier* is a large and beautiful flesh coloured flower, the petals of which are particularly smooth and glossy. *Catherine Mermet* is a grand variety, bearing light, flesh-coloured flowers. To grow them to perfection they require the protection of a wall, or a position under glass. Climbing *Devoniensis* is a very strong grower, and on that account is extremely valuable for covering high walls, and few creamy white flowers are more beautiful than those which this fine variety produce. *Duc de Magenta* has very sweet flowers of a salmon-rose colour, and is especially suitable for growing as bushes. *Innocente Pirola* is a lovely flower, both in its pure white form, and also when, as is sometimes the case, a pink tint is present. *Ma Capucine*, W. Allen Richardson, and *L'Ideale* are three very attractive varieties, the flowers of which are various shades of coppery yellow. It is a wonder they are not more generally grown. Of the three I prefer the first named, which is a seedling from *Ophirie*. *Ophirie* is also an excellent Rose for covering walls, as it produces great numbers of medium-sized blooms of a peculiar rose colour. It is a very old Rose, but it is highly prized here. *Madame Lambard*, being of a bright red colour, is perhaps the most striking among Tea Roses, its form also in the bud is perfect. *Madame de Watteville*, white-salmon tint, is both remarkable and beautiful. *Marie Van Houtte*, pale yellow, is one of the gems of this section of Roses.

*Niphetos*, and its climbing form, are indispensable white varieties. *Perle des Jardins* is another fine yellow Rose, especially in soils where the flowers attain that desirable canary yellow colour. *Reine Marie Henriette* in habit and vigour of growth resembles the well-known *Gloire de Dijon*, but the colour is red, and as may be supposed, is a most useful and beautiful kind. *Safrano* and *Madame Falcot* are apricot and pale yellow in colour respectively, and delightful Roses in the bud, and are well adapted for training against walls. The *Bride*, a new American sport from *Catherine Mermet*, resembling its parent in all points except the colour, which is ivory white.

Where Roses are planted in beds or against walls they well repay special attention in the preparation of the soil. This should be dug to a depth of at least 2 feet, and in damp positions have 6 inches of broken bricks or old mortar rubbish placed at the bottom to provide drainage. It is not everyone that can obtain good turfy loam for placing upon Rose beds, but where such can be had there is no question about the fine results which may be obtained by using it, and if only a small quantity can be spared for the purpose, this should be placed in immediate contact with the roots to induce quick and healthy root-action. A good layer of soot and wood ashes in equal quantities should be mixed with soil as the work of digging proceeds. The soil should also be enriched with well rotted manure. This should, however, be kept away from the roots at planting time.—D. W. C.

#### CHOICE ROSES FOR GENERAL CULTIVATION.

I AM not at all surprised that "W. R. Raillem" does not consider the list of Roses I recommended for general cultivation at the end of my last analysis to be as perfect as it should be. The fact is, no two rosarians, however experienced, would recommend for this or any other purpose precisely the same varieties.

As your correspondent justly says, "It is indeed an awkward task to make out a list of a certain number of best Roses suitable for all and sundry." In the first place soils and climates differ greatly, so that we occasionally come across varieties which are easy enough to manage in one locality, but which refuse to grow in others. For instance, I have eight-year-old plants of *Horace Vernet* on three different stocks, including the *Manetti*, which still continue to thrive and flower well; whereas *Xavier Olibo*, which "W. R. R." finds "not more difficult to grow" than *Horace Vernet*, I failed to keep alive on any of these three stocks; indeed, after persevering with this beautiful H.P. for five years I was at last reluctantly compelled to discard it from my collection.

Then, again, it is not the number of reliable Roses which puzzles the compiler of a selection of this kind, but their scarcity. He is, therefore, obliged to introduce a good many varieties which for some quality or other do not come up to the ideal standard he has set up for his guidance. For example, no choice selection would be considered complete without a few "dark velvety crimson" Roses, and yet I do not myself know a single variety of this colour which I could thoroughly recommend for ordinary garden cultivation. In my opinion such a Rose should be a good grower and certain flowerer. It should have a sound and hardy constitution and be little subject to mildew, while its blooms should be



sufficiently good to bear critical examination. The only dark velvety crimson Rose in my collection which comes sufficiently near this standard is Louis Van Houtte, which unfortunately in many localities is looked upon as but a miffy grower.

This year, almost in despair, I inserted Prince Camille de Rohan as being at all events more reliable than most dark Roses, although in other respects much below the above standard. And now "W. R. R.," in his good humoured way, pounces down on this poor *dernier ressort* of mine, with the cutting remark that "Prince C. de Rohan is lucky to find a place." If we only had a number of Roses in different colours as sound in constitution and as vigorous in growth as Ulrich Brunner, bearing flowers as freely as La France and as perfect as A. K. Williams, all our difficulties would at once disappear, and anyone with the least knowledge of the subject might be entrusted with the task of drawing up a select list which would satisfy even so practical and experienced a rosarian as W. R. Raillem himself.—E. M., *Berkhampstead*.

### THE VALUE OF HORTICULTURAL EXHIBITIONS.

A MEETING was held on the 18th inst. in the Guildhall, of the Devon and Exeter Gardeners' Mutual Improvement Association. Mr. G. D. Cann was unanimously voted to the chair, and he was supported by Messrs. A. Hope and T. E. Bartlett (Joint Secretaries), Franklin, J. E. Ebbutt, W. Vicary, W. Andrews, A. George, S. Radley, G. B. Lansdale, W. Webber, J. Gidley, F. Stone, J. Beazley, McCormick, James, &c.

The Chairman said that he had great pleasure in acceding to the request made to him that evening. No one was more capable of reading a paper on "Horticultural Shows" than Mr. Bartlett, who was a practical gardener, had been a large exhibitor, and now rendered great assistance to the Horticultural Society. The Gardeners' Improvement Association was greatly connected with the Horticultural Society, and this fact gave him (Mr. Cann) great pleasure in supporting the former.

Mr. T. E. Bartlett then read a paper on "The Value of Horticultural Exhibitions." He said:—Exhibitions, or flower shows as they are more commonly called, provide great pleasure and instruction to great numbers of people. The lovers of plants and flowers look forward to the show as the great event of the season. I wonder how many, when they go to these Shows, consider the value and benefit of them to the people of this country and its commerce. I hope, in this paper, to show a few of the benefits and advantages derived from exhibitions. Take, for example, the Chrysanthemum. Could they have attained their present state of perfection without the annual shows held in almost every town in the country? It is the same with the Rose, in fact everything, no matter whether flowers, fruit, or vegetables; since exhibitions have become so popular the improvement is truly amazing. Mr. Powell has given us a very able paper on the Apple and its culture, and I feel sure it will be a stimulant to every member of this Association. There are many things we know all about, or think we do, but we are so liable to be indifferent and careless, we want quickening up sometimes. I feel sure that next year we shall see the result in the way of finer fruit, better quality, and more exhibitors. The "Apple and Pear Fairs," held in the Lower Market, did a great deal of good in the classification of fruits and in showing the grower how necessary it is to keep the different varieties separate, and send to the market unmixed fruit.

To be successful at an exhibition should be the aim of every gardener. It is the stepping-stone to success in this life. If a man wishes to be a judge at some neighbouring show, what greater recommendation can he have than that he has been a successful exhibitor? He will soon be wanted. He must make a name for himself before he can expect to be placed in a position of confidence. It is no slight matter to judge between competitions, for there will be much judging going on afterwards by visitors, when every man will consider himself a good judge, and talk largely, if not wisely. Woe betide the judge if he has made a mistake. Public opinion will be against him, which no man can stand against, and is a very difficult thing to live down, and then there is the feeling of having wronged someone. But to gain a name requires great ambition and perseverance, and what is there to equal a show in fostering ambition?

The old order of things is fast passing away, but people must still be amused. The old-fashioned country fairs are now almost a thing of the past—and a good thing, too, for the morals of our young people. Now exhibitions take their place in a great measure, and where would the dividends of the railway companies be without them? All through the summer months they are running excursions to some exhibition or other, and I will venture to say that if you stop exhibitions the railways will cease paying such big dividends, and shareholders, in turn, will stop paying gardeners, and gardening would stand still to a certain extent.

From a gardener's point of view the advantages derived from exhibitions are very great, especially the prize money. As a rule, gardeners are very poorly paid considering the ability, skill, and tact that has to be brought to bear in the discharge of their duties. The prize money means a good deal; sometimes a new dress, a new bonnet for his wife, some new boots for the children, a trip to the seaside, or, perhaps (which I hope doesn't happen very often), to pay a doctor's bill. What chance would a man have of seeing the different parts of the country without exhibitions, for then there would be no cheap excursions or prize money to pay the necessary expenses.

Exhibitions are of great advantage to cottagers; not so much for the value of the prizes for which they compete as the better cultivation

of their gardens. When I have been judging "allotments and gardens" I have always found that those of the competitors are far better in every respect than their neighbours who do not compete. To a cottager nothing is more profitable; it takes up a deal of time, we know, but would he be doing anything else during the summer evenings which would be half so profitable? Moreover, it gives him something to think about, keeps him out of bad company, and gives him greater self-respect, and enables him to do well in life.

I have endeavoured to show the value of exhibitions in a few ways, and claim for it the lead of most of the industries of the country, and will now proceed to show the advantages gained by employers. Their gardeners go to the show and learn many things, make comparisons between different exhibits, and go home and look over the gardens under their charge. They see whether they could compete with those things at the show, with the result that when they are behind they work the harder to pull up, and try to grow things equal to those at the shows, which must be a great gain to their employers. I think I cannot close my essay without adding the Hon. H. G. Eastman's very excellent advice to the students of Eastman's Business College:—"My students, you are the architects of your own fortunes. Rely on your own strength of body and soul. Select some specialty for your life's work, and adhere to Paul's precept, 'This one thing I do.' Let your star be industry, self-reliance, faith, and honesty, and inscribe on your banner 'Luck is a fool, and Pluck is a hero.' Earnest effort in one direction is the surest road to health and high position. Don't take too much advice, keep at the helm, steer your own ship, and remember that the great art of commanding is to take on yourself the largest share of the work. Don't practise too much humility. Think well of your own self. Strike out. Assume your own position. It is the jostlings and joltings of life that bring great men to the surface. Turn a raft of logs down a millrace and the largest come to the top. Put Potatoes in a cart over a rough road and the small Potatoes go to the bottom. Rise above the envious and jealous. Fire above the mark you intend to hit. Energy, invincible determination, with a right motive, are the levers that move the world. Don't drink, don't chew, don't smoke, don't swear, don't deceive, don't read novels. Be in earnest, be self-reliant, be generous. There are two sides to every balance, and favours thrown in on one side of the scales are sure to be reciprocated on the other. Be civil, be a gentleman. It is a foolish man that does not understand that molasses will catch more flies than vinegar. Read the papers, they are the educators of the people; advertise your business. Make money and do good with it. Love God and your fellow men. Love truth and virtue. Love your country and obey its laws."

### A VISIT TO SLOUGH.

A FEW days ago I had the pleasure of going round the Royal Nurseries, where good things of many sorts are always to be seen well grown. The popular Chrysanthemum is there in great numbers, three large houses being devoted to the plants. Many varieties are grown, the object being not particularly large blooms, but dwarf sturdy plants with a profusion of flowers. The collection contains all the leading sorts, but I will name a few of the best only. The well known and much appreciated Avalanche was to be seen in splendid form; Belle Paule looked charming. Of the yellows Mr. H. Cannell and Mrs. Norman Davis were undoubtedly the best. Mons. Freeman was one of the most beautiful, the silvery rose coloured flowers being very striking amongst such darker varieties as Edwin Molyneux, Mons. Bernard, Mons. Garnier, Mons. W. Holmes, all of which are too well known to need any description here.

One of the houses, a long span-roof, was filled entirely with Princess Teck planted out in the border, and, though later than the other groups, the plants were showing some thousands of fine buds, and the blooms will be valuable in due time. Another variety very largely grown is Mons. Vivand Morel, the flowers of which are large and almost white; it is at Slough considered one of the very best for cutting purposes. A striking variety is Louis Boehmer, but these hairy-petalled sorts do not appear to be very popular, though they are effective when introduced into a group.

The Pelargoniums were next visited. They were in the best of condition, and will no doubt uphold the high reputation the firm has so deservedly gained as growers of them.

Of the Carnations and Picotees, there were many of the perpetual flowering sorts to be seen just now, amongst them Andalusia, one of the best for winter flowering, the primrose yellow-fringed flowers being very beautiful. Herald, a crimson, is a charming variety; as also is A. H. Kennedy, bright scarlet. Amongst the pure whites it would, I imagine, be difficult to find one superior to Vesta. Germania is one of the best of the yellows, and is consequently in great demand. Mrs. Reynolds Hole has also many admirers. All the plants are looking remarkably healthy, a credit both to the firm and to Mr. John Ball, the able and genial grower.

The Auriculas are also in excellent condition, and promise an abundance of splendid flowers. The Ivy-leaf Pelargonium Souvenir de Charles Turner arrested attention. For bedding, or in fact any other purpose, it stands pre-eminent; its very deep rose-coloured flowers, on each petal of which is to be seen a dark blotch, are very large, double, and freely produced, having a most pleasing effect.

Out of doors, amongst the thousands of fruit trees, all was bustle and life; enormous packages and bundles being sent away daily. After



a short chat with Mrs. Chas. Turner, I journeyed homewards, having passed one of the most pleasant hours amongst the flowers one could wish to experience.—AN AMATEUR.

## TWENTY-ONE WINTERS IN LONDON.

THE meteorological correspondent of the "Daily News" writes:—There lies before us a detailed record of the weather experienced in London during the past twenty-one winters. There have been seasons, like the last of the series, in which the winter has been attended by a serious amount of frost, of fog, and of snow; and there have been others in which the season has come to us on the wings of mild breezes wafted from the Atlantic, and in which cold weather, fogs, and snowstorms have been almost unknown. Take first the question of temperature—the most important element of all in the weather of the winter—and see how great has been the difference between the conditions prevailing in various seasons. Compare, for example, the weather of last winter, when hard frost prevailed in London throughout the whole of fourteen days, and when the thermometer sheltered in a screen fell to the freezing point or below on no fewer than sixty-five nights, with the mild season of 1876–77, when the maximum temperature of the coldest day was as high as 38°, and the number of frosty nights was only sixteen; or with the season of 1883–84, when frost occurred in the screen on nine occasions only. No less striking a contrast is afforded by the absolute minimum for the winter which, in the season of 1880–81, was as low as 9°, and in 1870–71 as low as 10°, but which in the winter of 1883–84 was as high as 28°. But no matter how cold the winter the temperature in London almost always succeeds in rising to 55° or more, and in three seasons out of the one-and-twenty it rose above 60°. It is not a little strange that notwithstanding the long-continued frost of last winter the thermometer at the close of the season reached a maximum of 62°, a reading which had only one equal in the winters of the previous twenty years.

Fog—another very important element in our London weather—also shows great variation in its prevalence. Last winter the number of days with fog was fifty, or just twice as many as the average for the previous twenty seasons. The cold season of 1879–80 came next with forty-three days of fog, but in the winter of 1871–72 there were only ten such days, and in that of 1876–77 only nine. Last winter we had, in short, nearly six times as much fog in London as we had in the winter of 1876–77. We find some explanation of the clearness of the latter season in the fact that with one exception gales were more numerous than in any other winter of the series. In the season of 1875–76, and again last winter, there were only two gales in London, and neither of them was severe; but in 1876–77 and in 1884–85 there were as many as thirteen gales, while in the seasons of 1882–83 and 1883–84 there were no fewer than eleven. The greatest number of severe gales occurred in the winter of 1883–84, when there were four occasions on which the wind reached force 10, or what is known among sailors as a "whole" gale. Snow also shows great variation in frequency and amount. Last winter the number of days on which snow fell was twenty-two, as against an average for the previous twenty years of twelve. It was, however, equally prevalent in the winter of 1887–88, and far more so in the seasons of 1878–79 and 1870–71, the number of days in the last-mentioned period being thirty. Against these we may set the winter of 1883–84, when there were only four days with snow; the season of 1876–77, when there were only three; and the still more remarkable season of 1881–82, when snow fell on two days only. The worst snowstorm of the whole twenty-one years was undoubtedly that of January 18th, 1881; but the storm which occurred on Boxing Day in 1886 was almost as severe, and far more disastrous in its effects, the damage to the telegraph wires in the latter case being the most serious and widespread ever recorded in this country. The amount of sunshine registered in the metropolis also varies greatly in different winters. The records of this element only cover fifteen winters, but in this space of time we have had one season (that of 1887–88) with a total of only sixty hours, while there has been another (that of 1886–87) with a total of 129 hours. In the former period the sun shone on an average for rather less than three-quarters of an hour each day, while in the latter case the daily average amounted to nearly an hour and a half, the nominal amount for fourteen winters being just one hour per day. Last winter there were forty-eight days without so much as a gleam of sunshine, while in the season of 1876–77 there were as many as fifty-nine sunless days, but in 1879–80 there were only thirty-nine.

The amount of rainfall shows variations quite as large as those exhibited by the other elements. Last winter and also in that of 1873–4 the aggregate fall in London was only about 2½ inches, but in the mild season of 1876–7 it amounted to over 12 inches and a quarter, and was nearly five times as much as in the two dry seasons just mentioned. The number of days with rain was rather more than twice as great in the wettest as it was in the driest seasons. The heaviest fall recorded in London on any one day in the course of the twenty-one winters occurred on Boxing Day, 1886, in connection with the great snowstorm to which we have already alluded. The snow was preceded by a somewhat heavy fall of rain, and the combined amount collected in the gauge was as much as 1.82 inches. In the storm of January, 1881, the snowfall was quite as abundant, but its consistency was far lighter, and the gale which accompanied it served to bring about great variations in the depth. In London the amount when melted in the gauge yielded only 0.3 inch of water. In conclusion it may perhaps be asked, "What guide is afforded by the twenty-one years' record as to the weather which is likely to

prevail during the coming winter?" And to this question there can be only one answer. The most qualified authorities are unanimously of opinion that in the matter of weather precedents count for nothing. A bad winter is more often than not followed by an inclement summer, and of that we have had a very forcible illustration during the present year. A hard winter is, however, by no means indicative of another equally bad season; and although such winters often run in pairs the frequency of such a combination is not sufficiently marked to admit of any forecast.

## SMALL SEEDS IN SEED PANS.

I THINK perhaps the raisers of plants from small seeds in seed pans may wish to know how I have got over all the difficulties in saving the young plants from their various enemies. In adopting my plan the delicate plants are perfectly free from the following destructive creatures—viz., worms, slugs, snails, woodlice, frogs, toads, or mice; whereas formerly my success was much hindered by them. The sketch accompanying shows one of my seed pans, about 12 inches in diameter, plunged in a warm bed in my vinery, varying in temperature from 60° to 70° Fahr., the usual drainage holes being corked up to prevent worms entering. I am careful, of course, not to overwater the pans. The pan has a channel round the upper edge for holding water that no small creatures may gain access to the plants, such as woodlice, slugs,

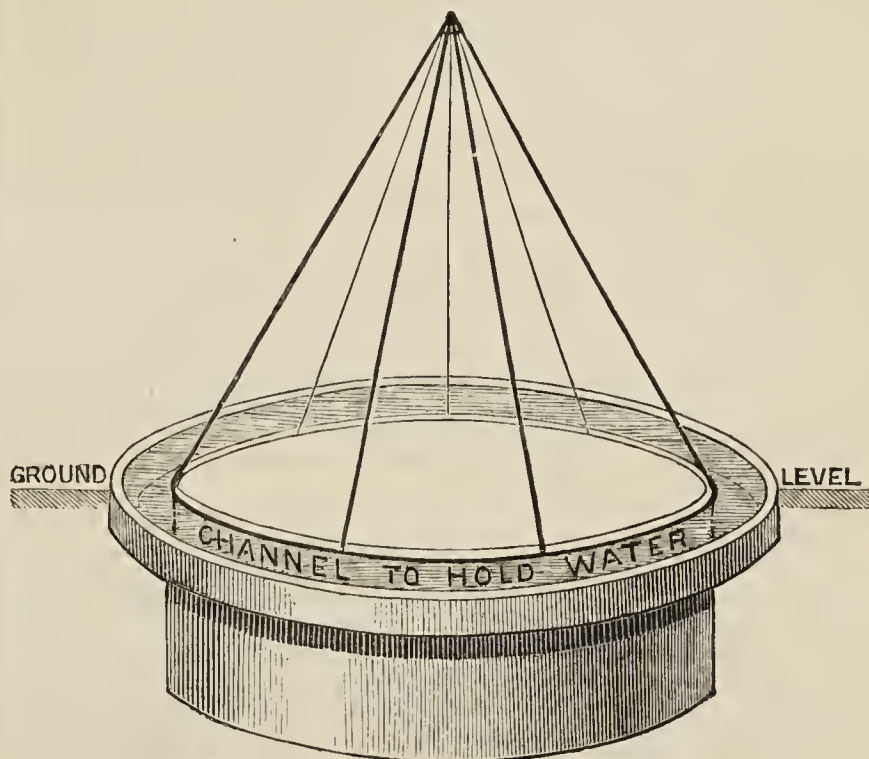


FIG. 89.—IMPROVED SEED PAN.

or snails. A handlight placed over prevents mice from scratching the soil and eating Marrow or Cucumber seeds, and toads or frogs from burying themselves and disturbing the seeds. These precautionary measures give a fair chance to the young plants. The handlight may be shaded by paper or whiting when the sun is too strong. The seed pans may be plunged or not, may be indoors or out, according to the season. I have one pan full of Auriculas from choice seed, lately come up, and plunged in a gentle hotbed. I can leave it a day or two without attention, feeling sure that it will be quite safe and right in my absence. During the last spring and summer I have used these pans with perfect success.—WM. MOODY BELL, *Cheltenham*.

[This seed pan appears to be good, and if made for sale would probably find purchasers if advertised.]

## CHRYSANTHEMUM SHOWS.

WOKINGHAM.—NOVEMBER 18TH AND 19TH.

This Society held their seventh annual Show in the Drill Hall on the above dates, and was a fairly good one. Most of the classes were open. For twelve incurved, distinct, Mr. W. Lane, gardener to Miss J. D. Smith, King's Ride, Ascot, was first with an even stand. Back row: Golden Queen, A. Salter, Queen of England, Lord Alcester. Second row: Lady Dorothy, Miss Haggas, Lord Wolseley, Golden Empress. Front row: Mrs. Heales, Angelina, Beauty, Barbara. Mr. H. Godfrey, Ribsdon Hill, Bagshot, was a very close second.

Twelve Japanese, distinct, brought a very fine display. Mr. Trinder, gardener to Sir H. Mildmay, Bart., Dogmersfield Park, was a good first with very heavy blooms, consisting of Sunflower, Condor, Louis Boehmer, Stanstead White, Carew Underwood, Etoile de Lyon, Boule d'Or, Madame J. Laing, Avalanche, Mrs. F. Jameson, M. E. A. Carrière, Mrs. C. Wheeler, a grand bloom, selected for the prize for the best Japanese bloom. Mr. Lane was second, and Mr. Godfrey third.

For six reflexed, distinct, Mr. Godfrey was first with fine blooms of Cloth of Gold, Cullingfordi, Pink Christine, White Christine, Golden Christine, and Fred Hart. Mr. Poppel, gardener to Sir A. K. Stephney,



Wood End, Aseot, second. This exhibitor also took the prize for the best incurved bloom—a fine Lady Dorothy (very deep). Class 6 was for twelve distinct, any varieties, to be shown with 9 inches of stem above the board, and here Mr. Trinder was again first, showing all Japanese, amongst them being a very fine bloom of Mrs. Alpheus Hardy. Mr. Godfrey was second with mixed incurved and Japanese. Mr. Lane third.

Groups do not call for special comment. Mr. Bungay, gardener to Sir W. Morshead, Forest Lodge, Binfield, was first. B. E. Cammell, Esq., Foley Court, Wokingham, second. Mr. Bungay was also first for a miscellaneous group. Mr. Lane had the best table plants. Mr. Cooper, The Vineries, Sunninghill, was first for Grapes, having good Alicante. Mr. Ashman, Billingbear Park, second. Mr. Godfrey had the best kitchen and dessert Apples, and Mr. Trinder was first for four dishes of Pears. Messrs. Sutton & Sons offered prizes for vegetables; Messrs. Lane, Bungay, Ashman, and Popple taking the prizes in the order named. The arrangements of the Show were excellent, and reflect great credit on Mr. T. Bedford, the Hon. Secretary, and Committee.

#### CARDIFF.

THE fifth annual Show was held on the 18th and 19th in the Park Hall, and, all things considered, the venture was highly satisfactory. We believe the Society will be enabled in the future to extend their list of prizes, and thereby induce some of the larger growers to enter the lists in the open classes. The Society is affiliated to the N.C.S., whose certificate was given for best twenty-four blooms, but on account of the earliness of the season in the district the exhibit winning the coveted parchment was not such as would rejoice the heart of a Tunnington or Molyneux. We believe that a fortnight ago the same exhibitor would have been able to stage very different blooms. A great improvement was noticeable in the groups this year, both in the open and amateurs' classes; some of the latter indeed might have entered with advantage in the former class, so even were their merits.

The largest class was for twenty-four distinct blooms, for which the N.C. certificate was given, Mr. W. Treseder, Cardiff, being first. T. J. Masters, Esq., Lanelly (Mr. Howe, gardener), was second; and Mr. F. Case, Cardiff, third. For twelve incurved, distinct, Mr. Howe was first with clean blooms of some of the leading varieties, followed by Mr. W. Treseder and Mr. F. Case, second and third. Twelve Japanese, distinct, brought out some very fine blooms, Mr. Hawkins, gardener to Colonel Turberville, Ewenny, being first; Messrs. Treseder and Case being again second and third respectively.

First and second for groups in the open class were taken by Mr. W. Treseder and Mr. F. Case. For groups in the amateurs' division Dr. Wallace, Howard Lodge, was first; Colonel Page, Llandaff (Mr. Hockey, gardener), second; and Mrs. Thomas, The Heath (Mr. Fisher, gardener), third; Dr. Wallace also taking the N.C. silver medal.

In the amateurs' division, cut flowers, for twelve blooms, Japanese, six varieties, Mr. Hawkins staged the best blooms in the Show, his Belle Paule, Mrs. Beale, Avalanche, Sunflower, Mr. H. Cannell, and Etoile de Lyon being splendid examples. Mr. Hockey, Llandaff, followed second with nice blooms, and Mr. Howe third. J. A. Orr, Esq., of Canton, was first for twelve Anemones, six varieties. Mr. Prosser, gardener to W. S. Ogden, Esq., Hatherleigh, Maindee, second. Twelve incurved, six varieties, Mr. Ryder, gardener to M. Gunn, Esq., Canton, was first; Mr. Hockey second; and Mr. Howe third. The competition for single specimen was good, but the same can hardly be said of the specimens themselves as such.

Table plants were numerous and good. For best six, Mr. Curry, gardener to E. M. Hann, Esq., Aberdare, took first, Mr. G. Clark second, and Mr. Hockey third. For four stove and greenhouse Ferns, Mr. Seott, gardener to J. Howell, Esq., was first; Mr. Clark, gardener to Colonel Hill, C.B., M.P., second, and Mr. Malpass, gardener to C. E. Jenkins, Esq., Penglan, third. For six Ferns, distinct, in 6-inch pots, Mr. Hockey first, A. Duncan, Esq., second, and Mr. Clark, Llandaff, third. Foliage Begonias were a feature, Mr. Ryder, Canton, as usual being first, Mrs. Kelly, Llandaff Road, second. Special prizes given by Mr. W. Treseder for twelve Chinese Primulas were taken by Mr. J. P. Jones, Penarth, Mr. Clark, Llandaff, and Mrs. Kelly, Llandaff, in the order named. Mr. Fisher, Heath Gardens, took the prize for best blooms of Mrs. Alpheus Hardy Chrysanthemum, and also the N.C.S. certificate for the same bloom. For six Chinese Primulas Mr. S. Grey, Canton, first, Mr. Fisher, The Heath, second, and Mr. A. Duncan third. Whilst for four double ditto, Mrs. Kelly, and Mr. Duncan took first and second.

The fruit exhibits were exceedingly fine in all classes, Apples and Pears particularly so. Mr. Hawkins was first for collection and Mr. F. Case second. Mr. Prosser first for two bunches black Grapes, Mr. Hawkins second, and Mr. Malpass third. Mr. Hawkins being first for two white, Mr. Ryder second, Mr. Davies, Aberaman, third. The principal prizetakers in hardy fruit being Mr. Rex, gardener to C. Waldron, Esq., Llandaff, Mr. Kelly, Mr. Pugsley, gardener to General Lee, Dynas Powis, Mr. Julian, Llandaff, Mr. Hawkins, Mr. Ryder, Mr. Malpass, and Mr. Hockey. The latter's collection of Apples, twelve dishes, six dessert and six culinary, were indeed a splendid feature, as were also a single dish of Peasgood's Nonesuch.

The vegetables also were good, chief awards going to Mr. G. Shewring, Llandaff; Mr. Geo. Clarke, Canton; and Mr. Pugsley. In looking at the collections staged by Mr. Malpass and others, we felt that the Committee might do well in future to make a separate class for market growers, private gardeners being necessarily handicapped in competition

with such. Mr. G. Clark, Mr. Hawkins, and Mr. Case took the awards for Tomatoes with extra fine dishes, and Mr. Hockey for best basket of salad. Messrs. Case and Crossling divided the honours for bouquets and wreaths in the open, Messrs. Hockey and T. Malpass doing likewise in the amateurs' class. The Committee are to be congratulated on the result of their efforts in the encouragement of floriculture among cottagers; the fruit, plants, and cut blooms exhibited by these were highly creditable to all concerned. Trade exhibits were confined to W. Treseder, Cardiff, stand of sundries; and Messrs. Clibran of Altrincham, stands of newest varieties of Chrysanthemums, for which the Society awarded a certificate of merit.—MUM.

#### BRENTWOOD.—NOVEMBER 19TH.

THE above-named Show was held in the Drill Hill, Ongar Road, Brentwood, and proved to be one of the best the Society has yet had. The groups were numerous, and the quality a great deal in advance of what has been seen previously at Brentwood. The cut blooms made a grand show, the competition in all the classes being very keen. Fruit was well shown. Particularly noticeable were the six dishes of culinary Apples exhibited by Mr. W. Goaring, gardener to C. J. H. Tower, Esq., Weald Hall. Messrs. Cheal of Crawley staged a magnificent collection of Apples and Pears not for competition, so also did Mr. Goaring. Mr. Breenes of Warley and Mr. Winter of Kelvedon Hatch exhibited splendid honey. The attendance was most satisfactory, and the arrangements were most carefully carried out by Mr. Thos. Haws.

The leading exhibitors in the groups were Messrs. T. J. Saltmarsh and Son of Chelmsford; Mr. P. Perry, gardener to H. Tasker, Esq., Middleton Hall, Brentwood; Mr. G. Nicholls, Brentwood; Mr. J. Preece, gardener to H. Wilmot, Esq., Warley Place; and Mr. Crook, gardener to J. Baxter, Esq., Hutton Hall.

In the open class for twenty-four cut blooms Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, was placed first, only beating Messrs. T. J. Saltmarsh by a few points. The best blooms in the first stands were Empress of India, Lord Wolseley, Lord Alcester, Golden Empress, Lady Dorothy, and Barbara. In the incurved Japanese were Mrs. F. Jameson, Etoile de Lyon, Sunflower, Condor, J. Délaux, Fair Maid of Guernsey, W. H. Lincoln, Japonais, and Madame C. Audiguier. In the class open only to amateurs, eighteen distinct varieties, Mr. Ocock was again first, Etoile de Lyon, E. Molyneux, Condor, Gloriosum, Mrs. F. Jameson, W. H. Lincoln being all good. The best incurves were Empress of India, Empress Eugénie, Golden Empress, and Lord Wolseley. Mr. Brazier was a good second, and Mr. J. Brown third. For twelve incurved Mr. Brazier was a capital first, his blooms being very solid and large. The best were Empress of India, Queen of England, Mr. S. Coleman, Golden Queen, and Miss M. A. Haggas. Mr. Ocock was second, and Mr. Crook third.

For twelve Japanese Mr. Ocock was first, having Mrs. F. Jameson, Japonais, Etoile de Lyon, and Condor, very fine; Mr. Brazier was a remarkably close second, and Mr. Tullett, gardener to G. Alexander, Esq., of Warley Lodge, was third. For six Japanese, Mr. Bolingbroke of Chelmsford was first; Mr. Preece, gardener to F. Willmott, Warley Place, second, and Mr. F. Brown third. For six incurved Mr. F. Brown was a good first, Mr. Bolingbroke second, and Mr. Tullett third. For six incurved, one variety, Mr. Brown was first with a grand lot of Empress of India; Mr. Ocock second with Miss M. A. Haggas; and Mr. Brazier third with Empress of India. For six Japanese Mr. Ocock was first with Japonais, followed closely by Mr. Goaring with Madame C. Audiguier; Mr. Brazier was third. Six table plants, Messrs. Saltmarsh were first, Mr. Perry second, and Mr. Preece third. Bouquet of Chrysanthemums, Mr. Burley, florist, Brentwood, was first; Mr. Perry second; and Miss Haws third. Table decoration, Mr. Burley was first, and Miss Haws second.

Six dishes dessert Apples, distinct.—Mr. Green, gardener to the Ven. Archdeacon Johnson was a good first. His best dishes were Cox's Orange, Ribston, King, and Blenheim. Mr. Goaring was second, and Mr. Jolly third. For six dishes kitchen Apples Mr. Goaring was an easy first, his Blenheim Orange, Peasgood's Nonesuch, Queen, and Warner's King being particularly fine and very clear. Mr. Goaring was first for three dishes dessert Apples, Mr. Jolly second, and Mr. Palmer of Romford third. Mr. Goaring was also first for three dishes kitchen Apples, Mr. Palmer second, and Mr. Burgess third. For three dishes dessert Pears Mr. Ocock was first, having Pitmaston Duchess, Duchesse d'Angoulême, and Doyenné du Comice in good condition. Mr. Tullett was second, and Mr. Preece third. Three dishes stewing Pears.—Mr. Tullett was first, Mr. Carver second, and Mr. Barnard third. Mr. Ocock was first for black Grapes, Mr. Green of Harold Wood second. Mr. Ocock was also first for white Grapes, Mr. Green second. For six sorts of vegetables Mr. Ocock was first, Mr. Tullett second, and Mr. Perry third.

#### SOUTH SHIELDS.

THE very successful Show held in the Royal Assembly Hall, South Shields, on Wednesday and Thursday, the 25th and 26th, was the outcome of the resuscitation on very vigorous lines of the South Shields Chrysanthemum and winter flower Show. Previous Exhibitions held by this Society have not been very successful. The last was held in 1882. Since then the Society apparently hibernated, to wake up during the past summer with new life and increased vigour. Having reorganised a very able and efficient executive and working Committee, it proceeded to work on such broad and liberal lines as seem likely, if persisted in, to cause it speedily to become the most important Show of the kind in



the North of England. To this end the present Society possesses several very important advantages. Firstly, they have in the magnificent new Assembly Hall that is probably the finest building for such a purpose to be met with out of London. It is of large size, beautifully proportioned, most lavishly, and yet chastely, decorated, illuminated throughout with incandescent electric lights, is connected by elegantly fitted corridors with a very popular and sumptuously furnished hotel, and is within five minutes walk of the railway station—a combination of advantages not often met with and to be proportionately valued. Secondly, this appears to be practically the only Show of the kind now held in a wide and populous district, comprising several large and important towns around which Chrysanthemums are largely cultivated; and thirdly, and not of the least importance, is the fact that it possesses a large and rapidly extending list of subscribers, who furnish the sinews of war which will enable the Committee to provide a very liberal schedule of prizes, to invite the best growers throughout the country to compete for them, and they had better look out in good time for next season's schedule of prizes.

The Show now in question was by far the largest ever held in South Shields, the number of entries for the previous one having been 719, whilst the number on this occasion was 1560. The exhibits filled not only the large hall, but also a room of the same size below, termed the basement, and this being comfortably warmed and lighted by electricity formed an additional and attractive promenade for visitors.

The first class in the schedule was one for thirty-six cut blooms, eighteen incurved and eighteen Japanese, not less than twelve varieties of each, and not more than two flowers of each variety. This brought five competitors and a fine display, the Japanese especially being generally good and bright in colour. Many of the incurved varieties on nearly all the stands were slightly too old, showing that the last week in November is somewhat too late a fixture even for a district so far north as this. The first prize in this class was very well won by Mr. G. E. Smith, Floral Cottage, Paull, near Hull. The varieties in his stand were—Incurved: Golden Empress (2), Miss Haggas (2), Barbara (2), Princess of Wales (2), Golden Queen (2), and one each of John Lambert, A. Salter, Mrs. Norman Davis, Violet Tomlin, White Beverley, Lord Alcester, Mrs. Heale, and Mrs. Shipman. Second, Mr. James Coultas, Darlington; third, Mr. F. Boulton, Blaydon; fourth, Mr. T. J. Wheeler, Newcastle. The names of the Japanese varieties were accidentally omitted.

Class 2 in the schedule was for eighteen Japanese, not less than twelve varieties or more than two of each. In this and the next following class there was also good competition, the first prize going to Mr. James Coultas, gardener to Alderman Hardinge, Hollyhurst, Darlington; second, Mr. R. F. Jameson, Hess'e, Hull; third, Mr. James Pringle, The Gardens, Benton Hall. The varieties in Mr. Coultas's stand were Etoile de Lyon (2), Avalanche (2), Mons. Bernard (2), Stanstead White (2), Puritan (2), and one each of A. H. Neve, Sarah Owen, E. Molyneux, Sunflower, Elaine, Golden Dragon, Criterion, and Jean Délaux. In the corresponding class for eighteen incurves (class 3 in schedule), not less than twelve varieties or more than two blooms of any one variety, Mr. James Coultas was again first; Mr. G. E. Smith, second; and Mr. George Walker, Gateshead, third. The varieties in Mr. Coultas's stand were Queen of England (2), Empress of India (2), Golden Empress (2), Lord Alcester (2), and one each of Emile Dale, Barbara, Refulgens, Lady Hardinge, John Salter, Mrs. Heale, Mrs. Coleman, Mrs. Wilberforce, Nil Desperandum, and Violet Tomlin.

For twelve Japanese, distinct varieties.—First, Mr. John Short, Darlington; second, R. F. Jameson, Hull; third, Mr. G. E. Smith. Twelve incurved, distinct.—First, Mr. G. E. Smith; second, Mr. R. F. Jameson; third, Mr. James Pringle. Twelve bunches of Pompons (foliage as grown, three stems to form a bunch).—An interesting class. First, Mr. G. E. Smith; second, Mr. F. Bolton. Twelve large Anemone flowered Chrysanthemums.—This class brought some good competition, and some very fine stands of flowers. First, Mr. G. E. Smith; second, Mr. John Short; third, Mr. T. J. Wheeler. Six incurved.—First, Mr. W. Partridge, Cleadon. Six Japanese.—First, Mr. W. Partridge.

Bouquets, epergnes, ladies' sprays, and buttonholes were shown in large numbers, and, as a rule, of high quality. Messrs. Perkins & Sons, Coventry, took the first prizes in each of the classes with some beautiful exhibits; Mr. J. Battensby, Blaydon, being second in each case with bouquets; and Messrs. Clark & Co., North Shields, second in each case, with sprays and buttonholes. Epergne for dinner table.—A fine competition. First, Mr. J. Battensby; second, Mr. J. Punton; third, Mr. F. Bolton. Epergne of Chrysanthemums.—First, Mr. G. Webster; second, Mr. J. Battensby; third, Mr. T. Berwick, Westoe.

In the class provided for a group of Chrysanthemums and other foliage and flowering plants arranged for effect there were four competitors, the first and second prize groups being both excellent arrangements of finely grown plants. The first prize went to Mr. J. Wood, Gateshead, his group containing a good bank of Chrysanthemums as a background, a large and fine central plant of Cocos Weddelliana, and in the foreground some fine highly coloured Crotons and Dracaenas, with a goodly number of healthy well-flowered Orchids, including several pans of Cypripedium insigne and Spicerianum, two finely flowered plants of Oncidium Rogersi, a good Oncidium varicosum, some Lælias, &c. The second prize was obtained by Mr. F. East, Westoe, his group being especially commendable for the high quality of the Chrysanthemums it contained, which had very fine flowers and good foliage.

Twenty classes were provided in the schedule for plants in pots, and each of these classes brought a good and healthy competition, forming in the aggregate a fine display which well filled the large basement floor. Mr. P. Blanchard, Jesmond, Newcastle, was first in the classes for six and three large flowering, for four Pompons, also six Japanese, three Japanese, and one Pompon, in each case with well-grown dwarf and well trained plants having good foliage and flowers. The second and third prizes in these classes going to Messrs. F. East, A. Purvis, N. Mothersell, W. Partridge, and Thomas Bird. For one large flowering Chrysanthemum Mr. T. Bird was first; second, Mr. N. Mothersell; third, Mr. A. Purvis. Two Anemone flowered: First, Mr. W. Partridge; second, Mr. P. Blanchard. One plant, any variety: First, Mr. N. Mothersell; second, Mr. W. Forsyth, Jarrow; third, Mr. A. Purvis.

Foliage plants and exotic Ferns were very finely shown, the numerous specimens being mostly of large size and in good condition, the principal prizewinners being Messrs. W. Forsyth, W. Partridge, James Wood, T. Berwick, T. J. Wheeler, and R. Barnes. Black Grapes were also well shown. First, Mr. D. P. Bell, Alnwick, with one bunch each of Gros Colman and Alicante, both large bunches and berries, and well coloured; Mr. J. Wood second, and Mr. T. J. Wheeler third, each with very good examples.

A most beautiful specimen of flower painting on silk, being a long spray of Maréchal Niel Roses with foliage, and interspersed with bronze Japanese Chrysanthemums, occupied a small table near the orchestra, and was greatly admired. It was the work of Mr. Hodge, art designer, 163, Livingstone Street, South Shields, and was given by him as a special prize for amateurs. A fine case of carvers, also given as a special prize by Messrs. Stocton & Tompkinson, Sheffield, occupied a place on the same table.

The orchestra was tastefully decorated by Messrs. Wm. Fell & Co., Fellside Nurseries, Hexham. We must not omit mention of the splendid music discoursed by Amer's exhibition band, which is well known throughout the northern counties, and proved an immense attraction, causing the large building to be crowded with the élite of the town and district during the afternoon and evening of the first day, and abundantly proving that really high-class music at such gatherings, although costly, is in the end a good investment.

The highest praise is due to the Hon. Secretaries, Mr. Bernard Cowan and Mr. H. Hinde; to the Treasurer, Michael Graham, Esq.; and to the excellent working Committee for the vigorous manner and broad-minded spirit in which the whole arrangements of the Show had been conceived, and we are pleased indeed to know that success has crowned their efforts.



#### HARDY FRUIT GARDEN.

**WALL TREES.**—Peaches and Nectarines tied to wires should now be loosed, the branches tied together and secured to the wall so that none of the wood touches the wire, or serious injury will probably occur to the branches in the event of severe frost. Where nails and shreds are used do not unloose the trees at present, but fasten the points of any shoots that may be projecting in order to get as much protection from the wall as is possible during the winter.

**PLANTING.**—Have this completed as soon as possible; it is always a good plan to have a few young trees coming on to fill up the places of any that fail. It is not always necessary to grow these on south walls. In many gardens they will grow well on a west aspect, and will make good trees for removing to better positions; but except in the most southern counties it is useless to expect good fruit unless they are on a south wall. In planting give a little fresh soil to start the trees if none has been added to the border lately, and a little chalk or lime rubbish mixed in the soil is very beneficial to Peaches and Nectarines, especially in old gardens. Do not use any manure amongst the soil; young Peach trees are apt to grow too fast when fresh planted. Plant firmly, but if the soil is wet do not tread it in. Give a good mulching of litter afterwards to keep frost from the roots, and fasten the trees very loosely to the wall, so that they can settle down with the soil. The best varieties of Peaches for open walls in their order of ripening are—Alexander, Hale's Early, Rivers' Early York, Dymond, Stirling Castle, Crimson Galande, Violette Hâtive, Bellegarde, Princess of Wales, and Late Admirable. These will give a succession of fruit from the middle of July to the middle of October in favourable seasons.

**NECTARINES.**—Lord Napier, Stanwick Elruge, Dryden, Rivers' Orange, Pine Apple, Victoria—the latter variety should only be planted in the warmest districts; fan-trained trees are the best. Some nurserymen run them up to one central stem, this is a bad practice except for rider trees. The main stem of dwarf trained trees should not run more than 18 inches from the surface, and should consist entirely of the stock.

**APRICOTS.**—A deep alluvial loam is the best soil for these, but it must be well drained and must contain a fair amount of limestone or chalk as for other stone fruits. Canker, or the dying off suddenly of large portions of the tree, is very troublesome in many places. The



variety called Moorpark is unfortunately more subject to this than the other kinds, and should not be extensively planted where there is reason to anticipate failure from the above cause, otherwise it is one of the very best kinds. Other good varieties, which are stronger in constitution and not so liable to disease, are Royal, Hemskerk, Kaisha, and Roman. A south aspect is not so essential for Apricots as it is for Peaches and Nectarines. They will succeed in the warmer counties on west and south-west aspects provided other conditions are favourable. They should be trained on the dwarf fan system.

**PLUMS.**—The choicer kinds of these deserve the next best position to Peaches and Apricots, which will vary according to locality. In bad situations Plums should take the place of the above fruits. A long succession of choice dessert fruit may be had by planting a good selection. They may be grown either as cordons or as fan-trained trees; the former cover the walls quickest and give better returns, although costing more in the first instance. Plums on walls are apt to get unsightly and fail to give satisfaction through the spurs growing too long and projecting from the wall; the grower should always be watchful about this, especially at pruning time. The following are good varieties for a succession of fruit:—Dessert, July Green Gage, Oullins Golden Gage, Green Gage, Prince Englebert, Kirke's, Jefferson, Coe's Golden Drop, Reine Claude de Bavay. Kitchen—Early Rivers, Early Orleans, Czar, Victoria, Pond's Seedling, Pershore Monarch, Grand Duke.

**SUCKERS.**—In planting all kinds of stone fruits it is necessary to carefully remove every appearance of a sucker or bud on the roots. Some stocks produce these much more freely than others, and are very troublesome when they get older; they may generally be known in the nursery by the knotty appearance of the stem and should be carefully avoided.

**PEARS.**—The best varieties of these should always find a place on the walls of the fruit garden. No matter how well they succeed as pyramid trees, &c., it is impossible to obtain such fine clean fruit as trees on walls will give. In good localities Pears will succeed on any aspect if other conditions are suitable, but north of London they should not be planted on north walls, and only the hardiest and earliest varieties will succeed there in the south. As a general rule the west aspect will be found the best of all. Cordon trees are preferred by many to the old horizontal style, which takes such a long time to cover a wall properly, and only continues in full prosperity for a few years after gaining its full size. By growing cordons also it is possible to grow more varieties on each aspect, and thus prolong the season of many of them. The following varieties will give a succession of good fruit:—Beacon, Jargonelle, Williams' Bon Chrétien, Beurré d'Amanlis, Seckle (must have a warm position), Fondante d'Automne, Emile d'Heyst, Marie Louise, Louise Bonne of Jersey, Pitmaston Duchess, Doyenné du Comice, Winter Nelis, Passe Colmar, Glou Morceau, Easter Beurré, and for the south Beurré Rance may be included also.

**NORTH WALLS.**—Generally speaking these are most profitably occupied by Morello Cherries, dessert Gooseberries for late use, and Red or White Currants. A good arrangement is to plant the Cherries as dwarf fan-trained trees about 15 feet apart, and grow the other varieties between as upright cordons, eventually reducing the latter to three cordons between each Cherry when these get to their full size. The Red Warrington Gooseberry is most useful for this purpose, as it keeps longer and better than any other variety; but if others are required, Thumper, Leveller, Husbandman, Crown Bob, and Lancashire Lass are good ones. Victoria is the best Red Currant for late use, and White Dutch should also be grown.

#### FRUIT FORCING.

**VINES.**—*Houses Started Early in November.*—Whether the Vines are in pots or planted out in inside borders the temperature will need to be increased to 60° at night in mild weather, 55° in severe weather after the buds break, gradually increasing it from that stage to 60° at night when the Vines are in leaf, 65° by day in severe weather, and 70° to 75° in mild weather. Ventilation should begin at 70°, just a little to insure a change of atmosphere, increasing it with the sun heat, having it rather free at 75°, and above that temperature, for it is important that the foliage be well formed and solidified. Avoid, however, sharp and drying currents of air, as that cripples the foliage, stunting the growth. Sprinkle the Vines in the afternoon of fine days, and damp the floors and other available surfaces twice a day according to external influences, avoiding a saturated atmosphere on the one hand and a dry one on the other. If there be evaporation troughs charge them with liquid manure, the clear drainings of stables and cow byres, but avoid those of pigstyes. Guano, 1 lb. to 20 gallons of water, is suitable for filling the troughs, also for watering Vines in pots or planted out, the liquid being applied at the same temperature of the house. Disbudding should not be practised until the bunches show in the points of the shoots, but the Vines should be tied in position as soon as growth has well commenced, and before the shoots are so long as to be liable to be damaged in the operation.

*Houses to Afford Grapes in May.*—The Vines that are to afford Grapes for table at the time stated must be started at once, these having had a few weeks' rest after being pruned and the house cleansed, and everything put into proper order. To insure a good break the atmosphere must be kept moist; nothing insures this better than a bed of leaves and stable litter properly sweetened, placing the materials on the floor and turning daily, adding fresh as requisite. Outside borders should have the needful protection from cold rains and snow; two-thirds of leaves and one of stable litter afford a less violent

but more lasting heat than manure, but it is not desirable to use fermenting materials on outside borders unless they can be properly attended to afterwards in removing the spent, and replenishing with fresh as required; then they are useful, not otherwise. Where outside borders were covered with leaves, bracken, or litter in early autumn, so as to throw off the wet, the temperature will be considerably warmer than that of borders exposed, and in the case covering with fermenting material may be dispensed with, but where the roots of Vines are wholly outside a covering of warm litter is preferable. Such Vines, however, are not suitable for early forcing, as for that purpose the roots should be inside mainly, if not wholly; the outside border, if any, being properly protected from cold and wet. Inside borders must be brought into a thoroughly moist state by applying water in a tepid state. Weakly Vines, and the border in a proper state as regards texture and drainage, may have liquid manure supplied at 90°. Maintain a moist atmosphere by syringing two or three times a day in bright weather, occasionally only in dull, avoiding excessive moisture and a close atmosphere, as these excite the emission of aerial roots from the rods. The temperature should be 50° at night in severe weather, 55° when mild, and 65° by day, except the weather be severe, then maintain at 55°, not exceeding those figures until the Vines commence growth. Young Vines will need the rods depressed to the horizontal line, or below it, to insure the regular breaking of the buds; without this they push growths from the upper buds only.

*Midseason Houses.*—Prune the Vines directly the leaves have fallen. This is advantageous in securing complete rest. Thin-skinned Grapes keep better cut and placed in bottles of clear rain water with a piece of charcoal in each than on the Vines, especially under a leaky roof, and where plants are in the house. In a suitable room the Grapes have a more equable temperature than is possible in vineries, and they keep longer and quite as plump. Keeping late Grapes on the Vines to mature after the leaves have fallen certainly improves those having a coarse earthy flavour, such as Gros Colman, and the Grapes from their leathery skins are not so liable to injury from damp as the thin-skinned Grapes, therefore they are left until the new year, or later, before cutting and bottling; but in the case of midseason Vines it is well to prune them directly all the leaves are down, and cut and bottle any Grapes at that time remaining. Thoroughly cleanse the house, dress the Vines, top-dress the border after removing the loose surface soil, and keep the house as cool as possible.

*Late Houses.*—Take every possible precaution against damp. Drip is fatal to late Grapes, a single drop of water getting inside a bunch being sufficient to spoil it, as the decay spreads rapidly. Drip is often caused by keeping the house closed and the pipes cold, so that moisture condenses on the glass and falls from the rafters or sash-bars on to the Grapes. This is common when early ventilation is neglected on fine days. A little air and gentle warmth in the pipes dissipates the moisture and prevents decay in the berries, but too much heat and too dry air causes the Grapes to shrivel; seek therefore a dry, cool, and equable temperature, 40° to 45° being sufficient, keeping the house closed in damp weather, and when clear admit air freely. Remove all leaves as they become ripe, avoiding sweeping, as dust greatly impairs the appearance of Grapes.

**CHERRY HOUSE.**—The trees must now be pruned. Full-grown trees, properly attended to in stopping during growth, will require very little pruning now. Any summer shoots that have grown considerably should be cut back to about an inch from the base, and the worn out spurs may be shortened or removed as required. Cut out dead spurs and thin those which are crowded, always reserving sufficient for producing a crop. The terminal shoots in the case of trees extending must not be shortened, but when they reach the extremity of the trellis they will need shortening, always to a wood bud. Young trees will require to be cut back as may be necessary, the central shoots being shortened so as to originate others for filling the space regularly, but it is not desirable to start them too closely together, as that may cause the branches to press against each other, and this is a common cause of gumming. Fan-training is unquestionably the best for Cherries, as it admits of replacing any branch that may fall a prey to gumming. Thoroughly cleanse the house—the woodwork with soapy water and a brush, lime-wash the walls, using fresh burned lime, with a sixth of flowers of sulphur and a little dissolved glue to cause it to adhere firmly. Wash the trees with soapy water, and afterwards dress them with an insecticide, being careful not to injure the buds. Remove the loose surface soil, and supply fresh loam. The roof lights being off they need not be replaced until the time arrives for starting the trees, which to have Cherries ripe early in May should be at the middle of this month. The very early varieties will ripen sooner, such as Early Rivers and Belle d'Orleans, these being well in advance of Black Tartarian and Governor Wood. These divergencies in ripening must be kept in mind in forcing Cherries, and it is necessary not to bring them forward too rapidly, especially when forcing them for the first time. Trees under fixed roofs should be well supplied with water if necessary to keep the soil moist. Fixed roofs, however, are mistakes in the early forcing of Cherries.

**FIGS.**—*Forcing Planted-out Trees.*—The earliest house should be closed in December to have ripe Figs in May. Where, however, the earliest Figs are obtained from trees in pots, starting the trees in borders may be deferred until the new year, so as to afford a succession. Planted-out trees, even with the roots confined (as they should be for early forcing) to inside borders, will not ripen the fruit so early as pot trees, and if started at the same time they will afford a close succession



to that from the pot trees. Assuming the soil has become dry, apply water in a tepid state to the roots at frequent intervals until the soil is thoroughly moistened. Sweetened leaves and stable litter in ridge form introduced into the house will produce a moist genial condition of the atmosphere, and induce gentle excitement, as well as economise fire heat. Start with a temperature of 50° at night, 55° by day, and 65° from sun heat, syringing the trees and every available surface in the morning and early in the afternoon, unless the weather be dull and cold, when morning syringing need only be practised in the morning. Ventilate moderately whenever the weather is mild, closing the house with sun heat at 65°, or if it exceed that with full ventilation close the ventilators when the sun heat begins to decline.

*Succession Houses.*—When the foliage has fallen prune the trees. Shoots which have attained the limit of the trellis must be cut back to where the succeeding shoots start in order that they may occupy their places in the ensuing season. Cut away all elongated spurs, reserving, however, as there is room, a few of those which are short-jointed and fruitful. Loosen the trees from the trellis, thoroughly cleanse the wood-work with soap and water, the glass with clear water, limewash the walls, adding a little sulphur, and wash the trees with soapy water with a brush and afterwards with some insecticide, avoiding, however, pigments that contain gas tar and other substances deleterious to the bark. Tie the trees to the trellis, leaving sufficient space in the ligatures for the swelling of the branches. Lightly point the border, remove the loose material, supply a little fresh loam with a sprinkling of bonemeal, and mulch with a couple of inches thickness of lumpy, partially decayed manure. Ventilate fully in all mild weather, only closing when frost prevails.

#### PLANT HOUSES.

*Poinsettias.*—After the bracts have fully developed they continue in good condition for a very long time in conservatories or other structures where the temperature is not allowed to fall below 50°. To prepare the plants for this purpose they must be carefully and gradually hardened if developed in strong heat, or the leaves will turn yellow, and thus destroy the appearance of the plants. While in a lower temperature the atmosphere should be kept as dry as possible, and care taken not to overwater the plants. Water of a lower temperature than the house must not be given to them. For all plants of this nature it is a good plan to use tepid water. Euphorbias that are in bloom should be subjected to the same treatment.

*Calanthes.*—These may be placed with advantage while in flower in conservatories or other houses where the temperature ranges about the same as advised for Poinsettias. Damp is the greatest enemy; in a moist atmosphere and moderately low temperature the flowers quickly become spotted, while in the conservatory little or no water will be needed. Few plants are more effective than Calanthes when they rise well above other plants and the pots and pseudo-bulbs are hidden with Ferns or other decorative plants.

*Gloxinias.*—Those that have enjoyed a good rest may have the old soil shaken from their tubers and started into growth in brisk heat. They may be laid in boxes amongst leaf mould, and when they have well started potted into various sizes, according to the size of the tubers.

*Begonia semperflorens carminia.*—Plants that are not required in bloom for some weeks may have their points removed. This will induce them to branch freely from near the base, and thus form a good succession to those allowed to flower now. Young plants that have been pinched and started two to four shoots may be placed in larger pots.

*Crotons.*—Good heads on plants that have become leafless towards the base may be partially cut through and mossed. These in a temperature of 60° to 65° will soon emit roots, and if well cared for will be in excellent condition for taking off early in the new year. After they are severed from the old plants slight bottom heat and a close frame should be provided for them until they commence rooting freely. Good heads started early in the year quickly make handsome plants. Dracaenas of various kinds may be subjected to the same treatment.

*Gardenias.*—Young plants, well established in thumb pots, may be transferred into 3-inch. Keep these in stove heat and they will grow steadily. Cleanse established plants from scale and mealy bug. No time is better than the present to get these pests under proper control. Sponge the plants, and then give them occasional applications of petroleum and water in a weak state. Strong stimulants and strong insecticides must be avoided after the flower buds are formed; they are liable to check the plants, and deformed flowers are the result. Do not keep the plants in a low temperature or apply cold water to their roots.

*Coleus.*—These are useful in small pots, but the cuttings should be inserted singly, and distinct bright colours selected. A good dark form will be found most useful for dinner table decoration if the plants are dwarf and well furnished with large leaves at the base. For this purpose the tops of shoots that have grown strongly should be chosen. Coleuses soon draw up too tall for a variety of purposes even when confined in small pots, and therefore some should be rooted at intervals of every three weeks during the winter. Although they do not last so long as Crotons they are distinct from those plants, and their highly attractive appearance during the winter renders them invaluable.

*Allamandas.*—The earliest plants may be pruned back and repotted in a compost of loam, sand and one-seventh of manure. If the pots are afterwards plunged where they can receive gentle bottom heat, growth will commence quickly. Clerodendron Balfourianum may also be started, but do not pot these until they have made little growth.

## THE BEE-KEEPER.

#### AN EXPLANATION.

IT has come to our knowledge that the publication of a statement which appeared on page 442 in our issue of November 19th was inserted under a misapprehension, and that the information supplied to us that "there was no mention of the Punic bees in the *Record* of June, 1890, nor has there been any allusion to them, either editorially or by any of its correspondents," is not in accordance with facts. Here are the facts:—

On page 74 of the *Bee-keepers' Record* for June, 1890, a question is asked by Guillaume, Wigtownshire, N.B., "What kind of bee is the Punic?" to which the editorial reply is, "According to 'A Hallamshire Bee-keeper' the Punic bee comes from North Africa. It is dark in colour, and from our limited experience of it is a good worker and a prolific sort."

It will be seen that "Punic bees" are twice mentioned there, and that a reply is given founded on "experience." Yet in the *British Bee Journal* for August 27th, 1891, on page 381, the same Editors, in reply to "Inquirer," say, "We know nothing about the so-called Punic bees, and can give no information as to their value."

We were induced to publish the statement last week in reliance on the accuracy of the matter furnished, and with a desire to be just to the conductors of our contemporaries; but we must also be just to our correspondent "A Hallamshire Bee-keeper," who has placed in our hands evidence which justifies us in making this explanation; and, we would add, our long experience has led us to regard him as an accurate correspondent.

#### BEEES AND SEDUMS.

I HAD not forgotten my promise to make careful observations of the effects of the Stonecrops upon bees. Unfortunately I have been baffled by the weather during the latter part of the season, and, like "A Lanarkshire Bee-keeper," have been unable to notice anything so definite as to be worthy of notice. The earlier Stonecrops do not seem to be much frequented by the bees, and some of the others appear to be only attractive to the humble bee, which does not seem to be affected in the same way as the others. I think the subject should be investigated over a wide area, as it is evident that in some districts where there are different sources of honey supply certain Stonecrops may not be frequented by the bees, while in others the contrary may be the case. This is quite a Clover district, and several Sedums bloom at the time when there is a good supply of honey from the Clover. I shall return to the subject shortly, but am at present very busy.—S. ARNOTT.

#### STANDS AND FLOORS.

I AM in receipt of many letters in praise of my style of hive and ventilating floor, which I think, after upwards of forty years' experience with it, and with its latest improvement, cannot well be improved upon. It is simply a square box of the same dimensions as one of the divisions of my storifying hive (it may be an inch shallower). The back portion is in two pieces, the upper being about 3 inches broad, having a wooden button in the centre of the bottom edge, the under piece about 1½ broad, which leaves from 1 to 1½ inch space to admit the withdrawal of the wooden shutter kept in its place by a fillet all round above it, which keeps it close to the aforesaid button at the back and held up in the front by a fillet each side, lowered at the back and the shutter when down falls flush with the bottom back rail, so that it is kept in place when in transit. This arrangement permits the easy withdrawal of the shutter for cleaning the *débris*, and the two-angled fillets permit it to be easily replaced. The feet should not exceed 8 inches long by 2½ by 1½. They should be checked



so that five-eighths may be left projecting and nailed firmly to the sides of the stand, leaning as it were 2 inches for the feet proper. The alighting board may either be hinged with brass butts or wire dools. The ladder, 9 inches broad, may be fastened by two bell-wire staples, forming a hinge, and one near each end.

The stand is fixed to the hive by a piece of brass or galvanised iron, or any non-corroding metal, about 4 inches long by one-sixteenth thick, having four holes in a line; and better if brass screws be used, and the sheet of perforated zinc seven holes to the inch should have one tack in the centre of the front only. I hope these details, although in some respects a repetition, will enable anyone to make their own stands and floors, which form in a double sense the basis of a good hive.

I have just observed water trickling from the floors of some of my hives, which, had they solid boards or floors, would by this early time been drenched with damp, which is the main cause of bees dying within their hives, to be dragged out with a crooked wire so as to insure the safety of the few that may have survived for a time till disease contracted through damp ends their days. Keep a sharp look-out for damp; do not let it have a place in or on the hive from either respiration or rain, and keep the bees in a comfortable state so that the heat from them will repel the humidity of the atmosphere.

#### STRAW HACKLES.

In order to show visitors the utility and economy of these over both double-cased hives and exposed single-cased ones, I have had several made, and every experienced bee-keeper who sees them is simply delighted, as much as the bees ensconced within their protection will be benefited, and the bee-keeper ultimately rewarded.

If bee-keeping has to be a paying concern in the future, economy in all the details of the apiary must be studied and acted upon accordingly. In order to hasten the desideratum, bee-keepers should fraternise more with one another, giving and taking ideas in a friendly spirit, so that all would, by friendly discussions, be the better of them intellectually and financially. — A LANARKSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

Thomas Rivers & Son, Sawbridgeworth, Herts.—*Catalogues of Fruit Trees, Ornamental Trees and Shrubs, and Roses.*



\*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Seedling Apple** (*J. Jeffrey*).—We think the Apple is worth sending to the Fruit Committee of the Royal Horticultural Society, and you can obtain the requisite particulars for forwarding a dish (one fruit being insufficient) from Mr. A. F. Barron, Chiswick Gardens, London.

**Address** (*D. D. D.*).—The address you require is 171, Fleet Street, London, E.C.

**Pipe Sockets Splitting** (*J. R.*).—Have you written to the firm who supplied the boiler and fixed the pipes for an explanation? Their reply might perhaps indicate to us the cause of the evil. We fail to see that any of your suggestions satisfactorily accounts for it, except faulty packing.

**Inarching Vines** (*L. C.*).—Black Alicante is more easily grown and more certain to produce heavy crops than those you propose to displace, but is relatively inferior in quality. Assuming the Vines are healthy and the border in good condition, strong fruiting rods could be had sooner by inarching young Vines to them than by planting the same young Vines. Spring is the time for inarching, and it is desirable that the young Vines be kept cool, so that the growth of the stocks may be somewhat in advance of them when the operation is performed. We have not tried the effect of establishing the Black Hamburgh on a stock of Mrs. Pinee.

**Chrysanthemum Mrs. Robinson King** (*H. T. S.*).—We think if you write to the Secretary of the National Chrysanthemum Society, Mr. R. Dean, Ranelagh Road, Ealing, you will find that this variety has been certificated by the Floral Committee of that Society. It was exhibited at Hull last year as Golden Queen, and as that name was insisted on the judges refused to admit its accuracy, and they were right. The owner was told if he would show it as a new sport it would be admitted as such, but as he refused his stand was disqualified. He subsequently found out it was distinct from Golden Queen, and we believe sold the stock to Mr. R. Owen. We shall shortly publish notes on this and other new varieties by Mr. E. Molyneux.

**Adiantum Fronds Browed** (*W. M. B.*).—The fronds are seriously scorched and disfigured, having the unpleasant smell indicative of the destruction of vegetable tissues by obnoxious fumes. The scorching appears such as results from fumigation with tobacco or other substance. Though you do not say that fumigation has been practised for the destruction of the black aphid frequently infesting the Cucumber plants, yet the appearance of the fronds point to some deleterious fumes having been employed. The vapour arising from troughs charged with liquid manure or guano water would also cause the fronds of Ferns to scorch, the ammonia vapour destroying their tissues, especially when soft, as appears to be the case with those scorched. Deficiency of air would not cause the scorching unless the sun acted powerfully upon them whilst wet. The close atmosphere and warmth would certainly cause soft tissues, and water resting on the fronds for any length of time cause their decay; but it is not a question of damp, but of scorching by fumes destructive of the tissues.

**Roman Hyacinths** (*T. F.*).—We removed one pot, and the roots in that had not reached the drainage and were fresh and sound; but on examining the roots of the more advanced plants we find that on these entering the drainage they appeared to come in contact with deleterious matter and were destroyed. This would affect the whole system of the plants, including the roots in the soil above the drainage, which become discoloured in consequence. Correspondents do not "trouble" us by asking questions; but, on the contrary, we are glad to receive questions when any answers we can give may be useful. You are fully at liberty to write again if you wish. You observe the bulbs admittedly sound have had the "usual treatment." You must permit us to say they have not had the treatment in respect to soil, drainage, watering, and position assigned, under which the best results are achieved by successful cultivators. It is certain there has been a departure in some respect, but without the requisite details it is impossible to indicate with greater precision how the mishap has been brought about.

**Salading for Winter** (*G. Brown*).—Too much wet and moderately severe frosts are alike injurious to Endive, causing the outer leaves to decay, the hearts soon following. Timely precautions must therefore be taken in the matter of either storing or protecting where the plants now are, or the bulk of the supply will be over long before midwinter arrives. Advantage should be taken of a fine dry day to tie up a few dozen fully grown plants, the outer leaves well enclosing the hearts, and if these are further enclosed by inverted flower pots with their drainage holes stopped the blanching will be more rapid and perfect, and a certain amount of protection also afforded. Blanching can also be readily effected by means of boards and slates, or even hay laid over two or three dozen plants at a time, fresh plants being covered every fortnight or rather oftener rather than covering up many at a time, and which will not keep long after they are blanched. Much may be done towards protecting a good breadth of Endive by means of side and end boards kept in their places with strong stakes, these supporting either lights or mats or both in severe weather. Endive nearly or quite fully grown transplant readily, and before they are injured by frosts they can if necessary for the purpose of getting them well together be lifted and packed somewhat closely in either pits, frames, or cool vineries and Peach houses. Tie them up prior to moving them, lift with a good ball of soil about the roots, replant in rich moist soil, and open them out again. Being duly protected from severe frosts and much moisture they will keep for several months, and a few at a time can be blanched for use as required. Late and nearly fully grown Lettuces should also be taken good care of, as they will be handy for mixing with well blanched Endive. If there is a good bed of them have rough frames ready for protecting or also transplant to frames as advised in the case of Endive. The Cos varieties blanch best when tied up. Mustard and Cress are the best of the small saladings, and should now be grown under glass. Sow every week or ten days separately in boxes, using fresh rich soil each time, and thickly on a level surface, pressing the seed well in and covering the Mustard only, and that very lightly with fine soil. Place in gentle heat and keep uniformly moist and perfectly dark till the stems are nearly 2 inches long, then transfer to lighter and cooler quarters. Grown in this manner the stems are well blanched and the salading of superior quality accordingly. Tender





WHEN considered as a merely mechanical operation, the pruning of Vines is a simple and easily acquired branch of the gardener's art, but viewed in its true light, as a necessity of cultivation, and a means by which we are enabled to control the quality of the crop and the size of the bunches produced, and also to rejuvenate apparently worthless Vines, few, if any, of the gardener's multitudinous duties will so well repay thoroughly thinking over before a single shoot is cut. The condition of the Vines to be operated on, their behaviour during the previous season, the peculiarities of different varieties, and the purposes for which they are grown, all come in for due consideration. Take the case of Vines which have become weak and debilitated, and which therefore produce unsatisfactory crops; a surprising improvement may be made in one season by ignoring all hard-and-fast methods of pruning, and leaving plenty of young wood, so as to be able to have a number of shoots to select from at disbudding time. Instead of cutting back to one or two eyes, as so frequently recommended (without any qualifying conditions being given) prune to wherever the best bud can be found, whether it happens to be 2 inches or 2 feet from the point it was last pruned to. With old Vines in a bad state, this often makes the difference between a very poor crop and a creditable one. I do not say that any system of pruning will make up for deficient root action, or the evils of an unsuitable border. These are matters which should also have proper attention, but if half the Vines in the undesirable state described were pruned closely, and the other half left as recommended, a second trial would not be necessary. Neither do I advise old Vines to be kept when they are so unsatisfactory, but there are hundreds of cases in which gardeners have no choice but to leave them, and in such instances, with the roots attended to and the long-spur system of pruning adopted, many might surprise even themselves with the result. It will be urged how unsightly these long spurs must be, but this need not be the case, as a shoot can always be retained at the base when the disbudding is done, and later on be stopped at a couple of leaves, so that the spurs may be cut back to that point at successive prunings.

My remarks thus far are intended to apply to Vines in an unsatisfactory state. In the case of those in a sound healthy condition the character of the crop may be greatly varied by the method of pruning adopted, and before this is determined it must be distinctly understood that close pruning means comparatively small bunches. Therefore, where Grapes are grown for home use alone, and large bunches are not particularly prized, cut back to one or two eyes, and fairly good bunches will result, such as are extremely useful for keeping up a continuous supply. One great point in favour of medium sized bunches is they are generally cut and used while in a perfectly fresh state, while larger bunches are not unfrequently dished up many times in succession till their appearance is not inviting.

Those who grow for market find, that except for special occasions, medium sized bunches weighing from 1 to 2 lbs. are in much greater demand than those of larger size, although a limited number grown to an imposing size are in constant demand for exhibiting in the windows of high-class fruiterers' shops, and command a higher price per pound than those of less bulk. The majority of Grapes grown for market, however, pay best when

large numbers of moderate sized bunches are produced, and pruning to one or two eyes is found to answer best with most varieties. Lady Downe's seems, however, to be an exception, and it is too much inclined to produce very small bunches, or to produce them too sparingly if pruned closely year after year. It is therefore always advisable to leave three or four eyes when pruning this variety, then at disbudding time when the back buds are promising they may be retained in preference to the terminal ones.

Two other varieties of Grapes which succeed much better when pruned on the long rod or the long spur system are the Muscat of Alexandria and Gros Guillaume; the former never appears thoroughly satisfactory for any length of time if closely pruned annually. It is really little short of marvellous the difference in the produce of closely pruned and closely stopped Vines of this variety; but the spurs should be kept a greater distance apart than most others require, and a shoot always retained at the base of the spur, so that after a couple of years the long spurs may be cut back to that point. Gros Guillaume should be treated on the long spur system for two reasons—first because much larger bunches are produced, and also because it is not generally a free fruiter if pruned back closely.

Having now given a few hints on the pruning of Vines to produce bunches of moderate size, and also pointed out those which I consider should never be pruned closely, I now come to the course to be followed in cases when exhibition bunches are wanted, as there can be no doubt that the greatest achievements in cultivation are attained where each variety is grown (and perfectly coloured) to as large a size as possible. To accomplish this there should be at least three or four eyes left at pruning time, so that a good selection of shoots can be made when the bunches are visible. Only a few gardeners, however, grow their Grapes from a purely exhibition point of view, so that all the Vines need not be treated on this long spur system. If some are pruned to one or two eyes and the rest allowed a couple of extra buds, and when a very promising shoot is found still longer, bunches of a great variety of sizes will then be the result, so that there may be abundance for home consumption, and a few extra good ones for exhibition purposes.

After a perusal of these remarks, the question will naturally arise in the minds of some growers as to what effect the various methods of pruning enumerated will have on the colouring of the Grapes produced, as there is a general belief that, with close pruning, Grapes, as a rule, colour the best. This is true to a certain extent, but the matter requires careful observation before a reliable opinion can be formed; for instance, it is a well-known fact that small bunches invariably colour the best. It is not an unfrequent occurrence to see a few small and medium sized ones (on Vines where every spur has been pruned closely) coloured perfectly, while the remaining bunches are far from being in that desirable state; and most growers know that the larger the bunch the longer the colouring process takes to complete. It is, therefore, reasonable to suppose that with a given number of large bunches and the same of small ones the latter would produce the larger percentage of perfectly finished examples; but, if only a relatively small number of really fine bunches attain that high standard of perfection, this would in reality be a greater achievement in the art of Grape growing than the production of double the number of bunches of a size met with frequently enough to merit the definition of commonplace. It seems to be an unerring law of Nature that the highest degree of excellence is only reached by a sacrifice of minor considerations, and those cultivators who thoroughly think out their methods of procedure, and under the constant guidance of their reason and observation strike out a bold course, are invariably rewarded with the greatest amount of success in Grape growing, as in most other matters connected with horticulture, and indeed, with life in general.—H. DUNKIN.



## HARDY FLOWER NOTES.

THE year is hastening to a close, December's short and dreary days are upon us, and frost, which came with laggard footsteps, has come and gone again. Dahlias lingered on until the last week in November, when a sharp night destroyed for the season many of Chloris's tender subjects. The Grecian nymph has, however, still some of her subjects left to render her their homage. Not least attractive at present are the Monthly Roses, which here show a few blooms well nigh throughout winter. One of these it might well be of which Hartley Coleridge speaks thus :—

"The patient beauty of the scentless Rose,  
Oft with the morn's hoar crystal quaintly glassed,  
Hangs, a pale mourner for the summer past,  
And makes a little summer where it grows."

I do not know that we have as yet fully realised the usefulness of these little Roses. We run too much after the exquisite blooms of the Hybrid Perpetuals, and neglect the little flowers which would brighten our gardens in such gloomy days as these. The "little summer" by their aid would abide, not only in our gardens but in our hearts, were these dainty flowers more widely grown. With these pretty China Roses before one's eyes we are disposed to protest against one of the expressions of that true lover of flowers—Shakespeare, who says :—

"At Christmas I no more desire a Rose  
Than wish a snow in May's new fangled mirth,  
But like of each thing that in season grows."  
—("Loves Labour Lost," Act I, Scene 1).

In ordinary winters the China Roses flower here for months at a time and are ever welcome at any season. This seems a favoured spot for Anemones, as while my friends a short distance inland have none in flower here they are again flowering away, and within the last few days a frame has been placed over some so that they may flower unchecked throughout the winter. The single varieties will be found the more suitable for this purpose. The day of named Anemones seems almost over, for the present at least, unless they experience a revival of taste such as is beginning to be experienced with the named Tulips. I do not know of any one in this country who makes a speciality of growing named double Anemones. I believe the late Mr. Carey Tyso was one of, if not the last in England. I was a little surprised the other day on looking up Justices' "Scots Gardener's Director" (1759) to find, that at that time the price of Anemones was £5 per 100. Unless in the case of someone who was particularly desirous of having a choice collection it is needless to purchase named sorts, as a packet of seed will produce many fine colours at a small cost. Although at this season the flowers do not open well outdoors, if cut when in bud and placed in water they will open in the house. There are few finer sights in May than a bed of Anemones with their beautifully cut foliage of bright green and their fine flowers of many colours, white, pale blue, deep blue, purple, crimson of various tints with various rings and markings, all ornamented with the black central boss which enhances the beauty of this classic flower. Classic flower I say advisedly, for few flowers are more alluded to in ancient works. I have previously quoted one of the legends of the origin of the Anemone, and another may be found in Folkard's "Plant Lore, Legends and Lyrics," p. 215, by Rapin, according to which the Anemone was originally a nymph beloved by Zephyr. This is perhaps an explanation of the name of the flower, which is derived from *anemos*, the wind. This "fairest flower" of Rapin is one which we would fain see more widely grown; and as tubers are cheap and may be planted from now onward till March, it is surely not too much to hope that they may again find their way into favour. They do very well in sandy soil here planted about 3 inches deep. One would gladly say more about these exquisite flowers, but others claim attention.

Protected from the storms by a little handlight is one of the latest of those flowers which seem to have stored up the summer's sunshine, that they might give it forth to brighten gloomier days—the Colchicums. The species now in flower is named *C. Decaisnei*, and is assuredly a valuable acquisition to the hardy flower garden. It has fine bright light purple flowers with broad well-rounded petals, and is said to be a native of the Anti-Lebanon. It is newly introduced, and is said to have narrow leaves. It produces a number of flowers from each bulb, and is from its late-flowering habit well deserving of notice. Poisonous as are the Colchicums or Meadow Saffrons, their beauty and value in the garden should cause them to be more widely cultivated. Speaking of their poisonous qualities, Gerarde recommends anyone who has eaten Colchicums to "drinke the milke of a cow, or else death presently ensueth." Nor are the Crocuses (like the Colchicums herbs of the sun, as the old astrologers tell us) unrepresented in

the garden even in December. *C. longiflorus* and *C. Fleischeri* still bloom under small handlights (specially useful for such flowers as these), and a new species (*C. hyemalis*), is in bud and will keep up the succession.

One becomes weary of pointing out the distinctions between the Crocus and the Colchicum, but it seems necessary to repeat them again and again. The broadest distinction, and the best probably for all practical purposes, is that the Crocus has only three stamens, while the Colchicum has six. On rockwork and in border various species of Crocus are peeping through the soil, holding out the hope of the time when they will open their glowing cups to the vernal sunshine, and glittering with radiance enchant us with their charms. But long dark days will pass before the yellow Crocus opens its burning flowers, which inspired Tennyson with the words :—

"And at their feet the Crocus brake like fire."

And the hues of changing and dying leaves meantime must needs temper our hope with sadness. This sadness is, however, almost drowned with admiration as we look upon these tints. The forest has its glowing autumn tints, and in a lesser degree our garden flowers give us a vision of beauty of a similar kind. In the dying foliage are shades of brown, of saffron yellow, and of bright crimson.

Perhaps the brightest shades of the latter colour are afforded by the dwarf *Polygonum Brunonis*, the Indian Knotweed. This is not a free flowerer with me, my soil being too dry, but in autumn it atones for this fault by the brilliancy of its leafage. Some of my friends consider it "weedy," but the epithet is hardly applicable to such a close dwarf habit of growth. It grows from 6 to 12 inches high, is a native of the Himalayas, and was introduced in 1845. I have observed it catalogued as synonymous with *P. affine*, which seems to have been introduced from Nepal in 1822. I am not an adept at describing plants, and the briefest description I can find is that given in Sutherland's "Hardy Herbaceous and Alpine Flowers," page 260. It is as follows—"This plant is creeping in habit, with numerous close-lying stems clothed with lance-shaped toothed evergreen leaves, tapering sharply at both ends on longish stalks. The flowers are deep rose, in dense but irregular spikes, supported on stems about 9 inches high; they appear rather late in the summer, and continue late. Pink, changing to deep rose, would perhaps be a better description of the colour. I have never seen this plant flower so well as at Edge Hall and at Blacklow House, Roby, the plant at the latter place being particularly fine. The mention of *P. Brunonis* reminds me of a dwarf species of earlier habit, and with sharper pointed leaves, which remain green. I saw this in an old garden last summer, but was at a loss to identify it. I find, however, it must be the one figured in Maund's "Botanic Garden" (Mr. Niven's edition), vol. ii., plate 57, and there named *P. viviparum*—the viviparous *Polygonum*. I do not see this catalogued anywhere, but although not showy it is particularly interesting from the growth upon its flowering stem of its little viviparous progeny of bulbs or buds. The flowers are whitish, of the same character as the other dwarf Knotweed, and are produced on a flower stem 3 to 6 inches high, and, as is stated in the "Botanic Garden," "at the same time as its flowers become, from their small green buds, more and more developed, the growth of a distinct progeny will be proceeding below them from the same stem. These consist of a number of brown or reddish buds or bulbs, as seen in our figure, each of them not only capable of forming a distinct plant for perpetuating its species, but capable of that development whilst on its parent stem." Although a native plant, *P. viviparum* is so interesting as to be worthy of a place when the peculiarities of plants receive notice.

This note on this curious Knotweed is a digression, but it serves to bring me back to my subject of the garden in December by reminding me of the curious appearance of *Mesembryanthemum uncinatum*, the only hardy Fig Marigold or Noon Flower with which I am acquainted. I have grown it for several years, and it is perfectly hardy here, but is only valuable from its curious gnarled-looking growth. I cannot get it to flower, but would by no means have it absent from my garden. It is said to have a pale purple flower, and is a native of the Cape of Good Hope, whence it was introduced in 1725. Haworth is, I believe, the authority for the specific title, but I have been unable to obtain much information about the plant. It is, at all events, interesting in the rockery at all seasons.

But the length of my MS. reveals to me that I have written too much. Verdant Mossy Saxifrages with their kindred with encrusted foliage, mounds of grey-leaved alpine Pinks, trailing sheets of variegated Arabis, with the many evergreen plants, and the Heaths of the rock garden still attract our eyes, and would inspire my pen. A small plant of *Ionopsidion acaule* still exhibits its gem-like flowers in the border, and appeals for notice ere the



year is done, for soon it shall be said of this little beauty in the words of Shakespeare—

“Death lies on her like an untimely frost  
Upon the sweetest flower of the field.”

—S. ARNOTT.

### PANCRATIUM FRAGRANS.

THIS beautiful West Indian bulbous plant seldom meets with the attention it deserves. Though its floral segments are not so long as those of some of the other species, its fragrance and the ease with which it is grown renders it one of the most useful of the genus. Seldom do we find any attempts being made to propagate it in private establishments, the stock being generally limited to one, or at most to a few bought plants. It is propagated readily by offsets, also by seed. The former may be pulled away from the parent plant with a few roots attached, the better way being to shake the plant clear of the soil, when the young bulbs may be removed intact. An occasional shake out in this manner is beneficial to the old bulbs, and allows of their being placed in smaller pots.

For potting a compost of fibrous lumpy loam and peat in equal parts, with sufficient coarse sand to make the whole porous, suits them. It is not desirable to use manure in potting or to employ stimulants after, except in the case of old and well established plants whose pots often contain more roots than soil. These latter would be better for a little liquid manure or clear soot water once or twice a week during the period of growth. Being a native of a tropical climate it requires stove temperature during the spring and summer when growth is active. During those seasons it should be afforded plenty of water at the roots. As the year declines less water should be afforded, and where practicable be removed to cooler quarters, a Cattleya house temperature being the best where it can be given.

It must not be forgotten that this *Pancratium* is an evergreen, and should therefore never be allowed to become quite dry, distress from this cause being evident by the flagging of the leaves. In *Cattleya* temperature they require very little water during winter, and if examined once a week there need be no anxiety on their account. March is the best time to remove the side bulbs, when both young and old plants should be removed to the stove or other equally warm house. The latter flowering in May or early in June if not shaken. Those plants from which all soil is removed require at least a month longer to flower than those left undisturbed. For decorative purposes this *Pancratium* is excelled by no bulbous plant, though many are better understood and cared for.—W. R. WILLIAMS, *Gt. Marlow*.

### CRINUM AMABILE, Don.

#### CRINUM SUPERBUM, Roxb.

WE have pleasure in offering you for publication a photo of *Crinum amabile*, Don, which, it is said, is one of the largest plants in Europe, and is well grown in one of the stoves of Messrs. Ant. Roozen & Son at Overveen, near Haarlem. The plant itself is, even without flowers, a picture of health and beauty; but in flower it is most lovely. It is about 2½ yards in diameter, the leaves are 4 feet long and 5 inches broad, lorate, tapering gradually to a point. The flower stalk or scape is 3 feet long, with an umbel of thirty to thirty-five flowers, which are very fragrant. The colour is white suffused with crimson, dark purple beneath. The perianth tube is bright red, cylindrical, 3 to 4 inches long; the segments the same length, spreading or revolute; the stamens 1 inch shorter than the segments. The bracts are 8 inches long and 7 inches broad; the circumference of the stem (neck of the bulb) is 16 inches, and the height above the tub 48 inches.

Like most other species, *Crinum amabile* being from Sumatra, likes a stove temperature with plenty of light and water. Some of them prefer a rest in winter time, but as far as I know *C. amabile* does not require that, at least the plant of which I speak, at Messrs. Ant. Roozen & Sons' nursery, never has any rest. All the *Crinums* can be raised from seed, but I never saw any seed on *C. amabile*. I have often tried to fertilise this, but never with any success. The propagation is effected by means of offsets and is very slow; when the offsets have attained sufficient size take them off, and grow them separately. We do that at any time. Last year this beautiful plant flowered four times, in January, May, August, and November. There is a figure of it in the “Botanical Magazine,” tab. 1605.—J. K. BUDDE, *Haarlem, Holland*.

[The necessary reduction of the large photo for engraving could not do justice to the stately plant in question.]

### CONFERENCE PEAR.

A CORRESPONDENT sends us what he calls a “picture” of this Pear, and asks if “all the fruits are like it?” He can judge for himself from our engraving of a typical specimen. The following is the description of this Pear:—Fruit oblong pyriform, from 4 to 4½ inches long, rather uneven on the surface, being somewhat undulating and bossed. Skin entirely covered with cinnamon coloured russet, through which the yellow ground colour appears in freckles; stalk long, stout and curved, inserted in a small round cavity; eye open, set in a slight depression; flesh buttery and smooth in texture, salmon-tinted throughout, and richly flavoured. In use during the end of October and beginning of November.

This is a seedling raised by Mr. Rivers of Sawbridgeworth, to whom

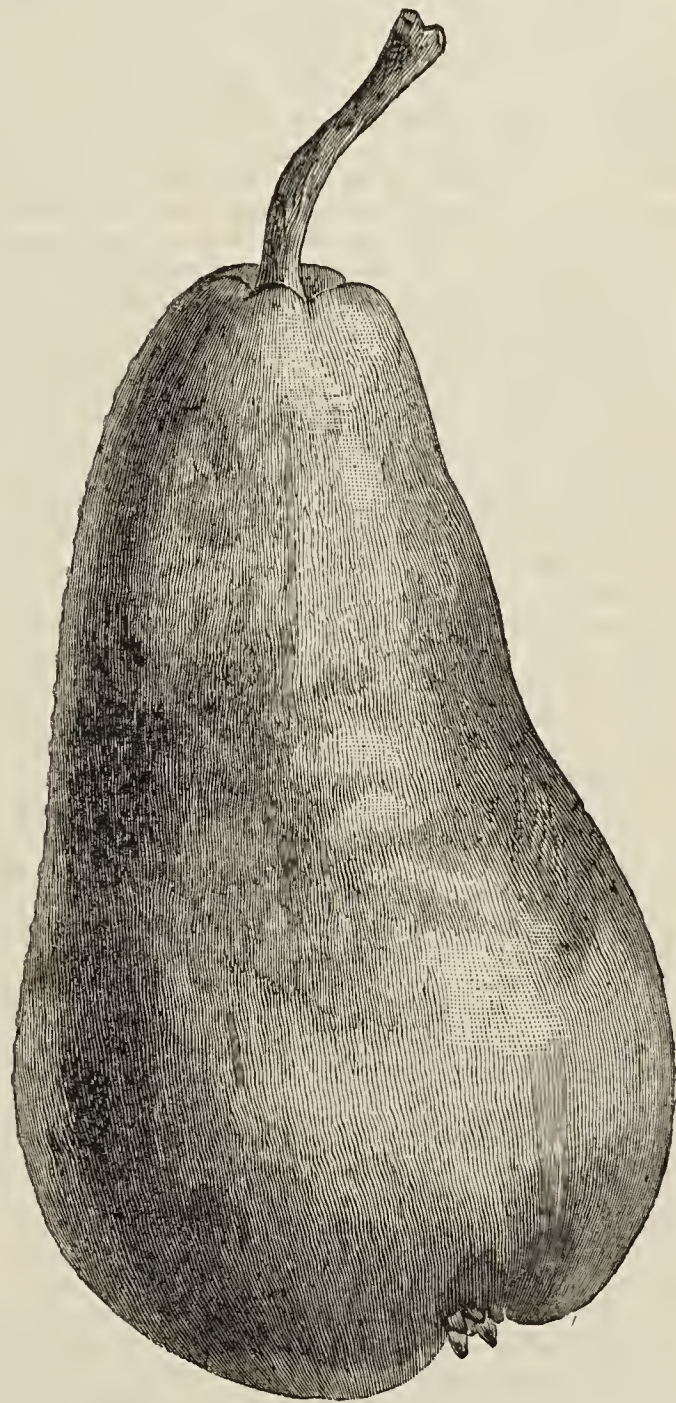


FIG. 90.—CONFERENCE PEAR.

we are indebted for specimens of the fruit from which our figure was taken. The tree is very hardy, and a great bearer. As an orchard fruit it is a valuable acquisition, and will be much in request as a market Pear. It received the name of “Conference” from obtaining a first-class certificate at the Pear Conference held at Chiswick in 1885.

### SIXTY YEARS OF HORTICULTURAL PROGRESS.

(1760—1820).

(Continued from page 301)

Now and then in our perambulations we come across a fairly preserved good old greenhouse of the reign of George III., and when we survey such a relic we wonder how it was that in those days gardeners succeeded as well as they did. Any sort of glass seems to have been thought quite good enough to glaze a hot-house with, and many of them were covered by small panes of green glass of the commonest kind; also, for the sake of cheapness,



nurserymen often glazed their buildings with fragments, and there were occasional gaps, while deposits of dirt settled in the interstices. Quantities of putty were used to fill up the laps, which, in connection with other obstructions of the light, often gave to the houses a very gloomy aspect. The construction of most was severely simple, whatever might be the size; a high back wall, generally 2 feet higher than the roof, a low front wall, or parapet as they called it, the sides of glass and wood. To avoid the necessity of shifting the sashes on the roof, some of the houses were built with openings in the back or high wall for the purpose of ventilation, these were usually closed by wooden shutters. It was about the year 1780 that someone suggested the employment of a leaden lap instead of putty for holding the glass in sashes, but an objection was made to this after a time, as the water running down the outside of a roof accumulated on the upper edge of each band of lead, and by degrees worked its way inside to drop on the plants. An improvement was made by the use of a very thin lap of lead, the glass being also secured with putty, but after a few years both modes became unpopular. The copper lap was a later invention, attributed to Mr. Stewart, who employed it in his large conservatories at Woodlands, near Blackheath. Gardeners, however, objected to the drip from this, which occurred unless the roof had a considerable slope, as this was said to be impregnated with copper, also to some extent the light was diminished.

By the middle of George III.'s reign, the open fireplaces first used for heating greenhouses were almost discarded, and the yet more objectionable plan of sinking the building and of warming it by a surrounding of decomposing manure had been quite given up. All houses, nearly, were now heated by stoves and smoke-flues; the stove, or furnace as they called it, being outside the structure and mostly placed behind the higher wall out of view, though some, for good reasons, preferred to have the flue enter the house at the front. It was carried round three sides in small houses and then brought back to the point where it entered, but in large houses it was made to return down the middle of the building. Coal was burnt, not coke or charcoal as a rule, and a variety of schemes were tried to avoid the necessity of going out to feed the stoves during the night, such as by a wheel which would revolve when the fire went down, but they were not successful. About 1775 we find mention of can-flues, so styled, a Dutch invention, known long before then in Holland. These were earthen pipes laid in portions and joined by cement; the objection to these was they heated rapidly but cooled down as soon. On the introduction of cast iron flues, rather later, these were also opposed by many, because it was thought difficult to prevent their being overheated, and some coated them with a mixture of clay and sand. Flued walls for fruit trees appear to have been introduced about this period. These were built of brick, occasionally of stone, and, of course, hollow pipes being carried from the base of the wall to within 1 or 2 feet of the coping; the stove was not placed in close contact with the wall, to avoid the diffusion of too much heat. A wooden or wire trellis was sometimes put in front of the side used, and some nurserymen had these walls covered with glass.

The poet Cowper amuses us by his description, given both in prose and in verse, of the trouble he took to raise "the prickly and green-coated Gourd." Evidently from what we read about his period the Cucumber was attaining an important position. Many new methods for its forcing and cultivation were tried. Indeed, McPhail remarks that almost every mechanic had a bed of Cucumbers in his garden, and he appears to have originated the method of raising plants by cuttings and layers as well as from seed. The gardeners now managed to produce Cucumbers all the year round by forcing in frames or stoves. Large quantities also began to be raised under handglasses; the seeds were sown in April or May for a summer and autumn supply. The majority of growers used dung chiefly for forcing, sometimes combined with vegetable mould or top-spit earth. Abercrombie gave his brethren many valuable hints, pointing out the importance of a steady heat, not allowed to fall much at night, also the need of due ventilation, which had been rather neglected, and he advised the application of sulphur as a remedy for mildew.

Before 1760 there were not more than six nurseries of any consequence in Scotland; but twenty years later showed a marked increase when the cannie Scots found that money was to be made, not only by the productions of the garden, but by raising seedlings of hardy and half-hardy trees and shrubs, some of which were found to succeed better in the air of Scotland than in that of England. A taste for flowers rapidly developed itself amongst the weavers of Paisley, which extended to other districts. Florists' societies were formed, and competitions took place, which led to the exhibition of new varieties of the Pink, Carnation, Tulip, Ranunculus, and other species, some of which were deemed superior to those obtained in the south. At this time the cultivation of the Strawberry had

increased more in Scotland than in England, also of Gooseberries and Raspberries, these being much in demand for making British wines. Some of the pupils of the famous garden-planner, Brown, made their way into Scotland, but did not attain to much success there. A man named Ramsey, however, improved upon some of Brown's methods, and became eminent there towards the end of that century.

In England a stimulus to the cultivation of choice and new plants was given by the publication of Curtis's "Botanical Magazine," commenced in 1787. Before that date, however, we read of William Curtis as the publisher, in 1777, of a "Flora Londinensis," and about that date he took up the subject of horticulture practically, for having secured a plot of ground in Lambeth he formed a collection of plants, medicinal, useful, and injurious, all arranged scientifically, to which he admitted the public by subscription. He was assisted by Barrington and White, and subsequently removed to Brompton. We have, it seems, to thank Lord Bute for introducing the Dahlia, a flower which caused much excitement, the seeds being sent from Mexico to Madrid in 1789, and his Lordship secured England a few of these. It is curious that some persons were anxious to name it Georgina, after Georgi, a Russian botanist, but it received an appellation from Dahl, the Swede. The first perfect blossom is said to have been raised in the French garden of Holland House, after many failures, and its history is illustrative of a common error amongst gardeners then, they supposed that because a plant was an exotic it must want a high temperature and a stuffy atmosphere. Mignonette (first grown, 'tis said, in Chelsea Botanic Garden, had become common about the London windows by 1775, and one of its cultivators prophesied that it would so increase as to grow along our hedgerows; but this does not appear likely to occur. Some good work for horticulture was done unobtrusively by men comparatively unknown, such as Nathaniel Rensch, whose family for two centuries held a nursery at Southfields, Fulham. He died in 1783, at the mature age of 100, and in the same room where he was born. This Rensch produced many variegated evergreens, and some think he introduced the Moss Rose.—J. R. S. C.

## FUNGOID DISEASES.

(Continued from page 474.)

THE following subject has special interest to growers of fruit in this country, inasmuch as it treats of Apple scab, *Fusicladium* (*Cladosporium*) *dendriticum*, *Fckl.* The work was conducted by Prof. E. S. Goff, and at the same station as last year, to which reference was made in this Journal; but a brief outline of the circumstances under which the experiments were pursued are imperative:—"The fruit farm of Mr. A. L. Hatch, on which the experiments here reported were conducted, lies three and a quarter miles south-east of the village of Ithaca, Richland County, Wisconsin. It crowns the summit of a hillock, and is not far from 1000 feet above sea level. The soil is a light clay loam, underlaid by Potsdam sandstone, and is in a good state of cultivation." The location is a wet one, and corresponds in many respects with the climate of this country, especially in a wet season; hence the experiments have special significance, because Apple scab and cracking in Pears is most prevalent in wet seasons, and runs rampant in cold soils and wet localities.

"The weather during the early summer," states Prof. Goff, "proved excessively rainy, and the effects of some of the applications were undoubtedly destroyed by copious showers soon after the treatments. It was sometimes necessary to postpone applications from day to day owing to the very frequent rains." Three fungicides were tested this season (1891), namely:—I. Copper carbonate dissolved in ammonia and also in suspension. II. The sulphur powder, so-called, introduced by Mr. E. Bean, of Jacksonville, Florida. III. The compound of ammoniated copper sulphate and ammonium carbonate—namely, mixture No. 5, before described.

The objects of the experiments were to ascertain the most efficacious materials and the best methods of using the fungicides. Prof. Goff observes that "It was found in 1889 that the ammonia, unless very largely diluted, endangers the foliage, and gives the fruit a rusty appearance. It also dissolves the arsenic of Paris green or London purple when used for the codlin moth at the same spraying, and this indirectly causes injury to the foliage." This is in accord with our experience of ammonia applied to the foliage as we have done for many years for the destruction of parasites. Treatment was followed on two trees with copper carbonate dissolved in ammonia, and two others with the same material simply stirred in water, as we apply Paris green, and the crops of these two pairs of trees were compared with each other, and also with those of the check tree. The treatment also had regard to spraying before the opening of the flowers, deferring it until after bloom, and the number of times necessary to give best results. Some trees were sprayed two, others four, six, and eight times respectively, and the crops of the different trees compared with each and with check trees not sprayed at all.

"The strength at which the fungicides were used. The copper carbonate was in every case of the precipitated form, and when applied in the



diluted ammoniacal solution was used at the rate of an ounce of the salt to 25 gallons of water. One ounce was dissolved in a quart of ammonia (strength 22° Baumé) and the solution added to the water just before the treatment at the rate named.

"When the copper carbonate was applied in suspension, an ounce was first stirred in a small quantity of water, and the mixture thus formed was added to 12½ gallons of water.

"The sulphur powder was used according to the directions on the package, *i.e.*, 10 lbs. were added to a barrel (50 gallons) of water, and allowed to stand a few hours before use. The yellow coloured liquid resulting was employed without dilution. As the barrel became nearly empty it was again filled with water, and the solution used as before.

"The mixture No. 5 was used as suggested by you (Mr. Galloway)—*viz.*, 12 ozs. to 22 gallons of water in the first two treatments, but owing to injury to the foliage it was diluted one-third in the later sprayings.

"The trees selected for the experiment were of medium size, and all promised a full crop of fruit, though all did not mature a full crop. None of the trees used in the experiment in 1889 were employed in the experiment here reported. The first treatment was given on May 5th, and others were made May 13th, 31st, June 5th, 16th, 28th, July 14th, 25th, August 6th, 19th, and September 2nd. Of course all the trees were not treated at all these sprayings. The treatment of June 5th was intended to supplement that of May 31st, much rain having fallen between the dates. As the Apples showed indications of maturity the entire crop on each of the trees selected for the experiment was gathered and assorted into three qualities as follows:—

1. Fruits free from scab.
2. Fruits showing scab spots, but not of sufficient size or number to distort the Apples.
3. Fruits more affected.

"In assorting the crops only the scab was considered, size and insect injury being ignored. Some of the fruits placed in the first quality were badly distorted by insect injuries, and were very small in size. In like manner some fruits of comparatively large size were of necessity placed in the third quality."

Tables follow showing the number of trees sprayed, with the number of times and dates of spraying, from which we glean that one tree of Canada Peach Apple sprayed with suspended copper carbonate two times before bloom, two after bloom; dates, May 5th, 13th, and 31st, June 5th, gave 257 fruits; first quality, 16.34 per cent.; second quality, 77.43; third quality, 6.23. One tree of the same variety sprayed with suspended copper four times after bloom, dates May 31st, June 5th (extra on account of rain), 16th and 28th, July 14th, gave 175 fruits; first quality, 5.71 per cent.; second quality, 72.57; third quality, 21.72.

One tree of Fameuse Apple treated with suspended copper carbonate six times—*viz.*, May 31st, June 5th (extra), 16th, and 28th, July 14th and 25th, August 16th, produced 633 fruits; first quality, 3.79; second quality, 41.71; third quality, 54.38 per cent.

Spraying with ammoniacal copper carbonate six times, dates as last given, fruits, 1.027; first quality, 2.32; second quality, 32.91; third quality, 64.27 per cent. One tree sprayed two times, May 31st, June 5th (extra) and 28th, produced 1161 fruits; first quality, 3.16; second quality, 37.15; third quality, 59.69 per cent. One tree sprayed once before bloom, three after bloom, May 7th and 31st, June 5th (extra), 16th, and 28th, bore 912 fruits; first quality, 20.61; second quality, 56.47; third quality, 22.92 per cent. Bean's sulphur powder, six sprayings, May 31st, June 5th (extra), 16th, and 28th, July 14th and 25th, August 6th, fruits, 1359; first quality, 1.18; second quality, 28.18; third quality, 75.64 per cent.

Mixture No. 5, eight sprayings, May 31st, June 5th (extra), 16th, and 28th, July 14th and 25th, August 6th and 19th, September 2nd, fruits, 1096; first quality, 18.70; second quality, 52.56; third quality, 28.74 per cent. One Canada Peach Apple tree, check, not sprayed, fruits 865; first quality, 0.36; second quality, 68.98; third, 30.66 per cent. One Fameuse tree, fruits, 258, first quality, 1.16; second quality, 22.87; third quality, 75.97 per cent.

In addition to carefully compiled tables, from which the preceding are taken, diagrams are given showing the results of the treatments in black and white, and shaded lines representative of qualities. White first quality, diagonal lines the second, and the black portion the third quality. From these it appears that the mixture No. 5 was considerably the more efficacious; that the sulphur powder actually appeared to increase the amount of scab, and that there were little difference in the results obtained by using copper carbonate suspended in water and in ammoniacal solution. In spraying the Canada Peach Apple with suspended copper carbonate before and after bloom, the benefit from the treatment before bloom is very perceptible, which indicates that this method of using copper carbonate is capable of giving good results. The value of spraying once before the flowers have opened and three times after the petals had fallen is apparent from the fact that it is more efficacious in preventing Apple scab than four sprayings made after the fruit is set. Eight treatments gave only slightly better results than four, but four gave considerably better results than two. It must be noted that the first two sprayings succeeding the fall of the petals gave no results, the rains then prevailing washing off the fungicide, and rains simply promote the growth of the fungus, for the June 28th and July 14th sprayings proved beneficial, because the weather was less wet; and it is evident that treatment made after midsummer are of doubtful value, as stated in the subjoined summary.

Prof. Goff states that the experiments suggest the following conclusions:—"I., That in seasons of excessive rains in early summer

the scab on badly infested trees cannot be wholly prevented by the treatments given in this experiment. II., That of the substances tested the mixture of ammonium carbonate and ammoniated copper sulphate (designated as mixture No. 5) was most efficient. III., That the precipitated copper carbonate applied stirred in water, as we use Paris green, is nearly or quite as efficient as when one-half the amount was applied dissolved in ammonia, a point which, if confirmed by future trials, is important, as it will render possible the use of Paris green for the codlin moth at the same spraying with the fungicide. IV., That early treatments, and especially at least one treatment previous to the opening of the flowers, is extremely important."

It is stated that the cost for spraying one tree once with ammoniacal copper carbonate is, including labour of preparing, about 6 cents. (3d.); that of spraying one tree with suspended copper carbonate, using double the amount as in the above, is about 4.2 cents. (2d.), the mixture No. 5 costing practically the same as the ammoniacal solution. "V., That sprayings after midsummer are at best of doubtful value. VI., That on trees badly infested with scab the fruits that develop may be so far reduced in size by the fungus as to diminish the crop nearly 20 per cent., but this is doubtless but a small part of the injury actually produced."

Professor Goff, in concluding an extremely valuable report, advises that in future experiments a larger number of trees be employed as duplicates. Additional notes on the experiments in treating Apple scab (*Fusicladium dendriticum*) are given by Mr. Hatch, on whose fruit farm the experiments were conducted, and having an important bearing on the use of fungicides in some essential points they are subjoined:—"It is my opinion that the first spraying for the Apple scab should be made much earlier than the time usually selected for the first spraying for the codlin moth. The foliage is then pretty well formed, and the past season we found well developed scab spots upon the leaves at that time. The few scab spots found later in the season that appeared to have been killed by the treatment warrants the conclusion that the chief benefit of spraying comes through the destruction of the spores that have gained lodgment upon the fruit and foliage. The results in the case of the trees treated before blooming also points in this direction. I think it possible that a treatment before the buds have commenced to expand would be productive of much good. The extremely heavy rains of June and the first part of July rendered the season very unfavourable for the work, and resulted in loss of the benefits of spraying my main orchards for both Apple scab and insects. Still, by persistent efforts I think we have some valuable results. At least we have done all possible to make them successful, and our thanks are due to Professor Goff for his aid at various stages of the work. My loss from Apple scab has been very serious, not only in fruit but also in foliage, and the magnitude of its injury warrants still further efforts in combating it. We found mixture No. 5 very persistent upon the foliage, but apparently too strong in ammonia. Its caustic effects were so apparent that for some of the later sprayings we reduced the quantity one-third. The solution of carbonate of copper, although diluted 100 parts with water, had similar effects, and I would suggest that it may possibly be found equally efficient if diluted even 200 times. We used strong ammonia (supposed to be 22° Baumé) to make a saturated solution (about 1 oz. to 1 quart). In using carbonate of copper in water alone I think we used too little. There would have been no harm to the foliage if used several times as strong, nor indeed is it likely to prove injurious in any degree."

The use of precipitated carbonate of copper in suspension is really worth all the experiments. It not only proves the possibility of one treatment answering the purpose of a combined fungicide and insecticide, proves that precipitated carbonate of copper does not injure the foliage and fruit, and may be used with perfect safety, but it establishes the fact that the surfaces coated with a thin film of copper carbonate are practically invulnerable to attack by the fungus, and that its germinal tubes are destroyed by the copper at the point of contact. In fact, fungoid diseases must be treated early—in advance of the germination of the spores. If allowed to germinate and the mycelium have penetrated beneath the epidermis no treatment does more than arrest the disease, if that, whereby trouble and loss is entailed, which by early treatment might have been prevented.

The "Journal of Mycology," as will be seen from the foregoing extracts, of which we are heartily ashamed to have made such copious use, but it is justified, for in this country we absolutely do nothing to prevent the spread of fungoid disease but let whole fields of Potatoes rot before our eyes. On this subject, Potato disease, the "Journal of Mycology" is not silent, but contains some very cogent notes on experiments conducted by Prof. Goff on Mr. Hatch's farm, which I hope to allude to on a future occasion.—G. ABBEY.

#### PACKING THE JOINTS OF HOT-WATER PIPES.

THERE are many complaints of the bursting of sockets that have been packed with iron filings. The cause is unquestionably the use of too much sal ammoniac amongst the borings. The too free use of this is rapidly bringing iron joints into bad repute. They are without doubt the best and most durable that can be made, provided the necessary care is exercised in mixing the materials. Excess of sal ammoniac destroys the properties of the metal, and the sockets are certain to burst sooner or later. They fail when the rope placed into the joints begins decaying. The sockets often burst during the time the fires are not employed, or almost directly after they have been restarted or heat turned on to the pipes. The length of time the sockets last after these



salts have been used too freely depends a good deal upon the amount of rope or similar material employed.

Sockets packed with iron filings and sal ammoniac often burst through carelessness in mixing the ingredients—ignorance in not knowing the destructive properties of sal ammoniac or laziness. When used in excess the filings become pasty and are much easier to work, the joints requiring less hammering up than when the right portion only is used, thus being made easier and quicker.

Split sockets may sometimes be kept together for years by placing an iron band round them. Long thimbles are the most satisfactory after cutting off the socket. Practically new rope or hemp that has been loosely twisted should be used, and this should be liberally coated with white or red lead, half filling the joint, then finishing with Portland cement. Joints made with rope and red lead only have stood for years.—O. M.



#### AMATEURS AND SINGLE-HANDED GARDENERS.

DR. WALKER'S letter in last week's Journal is surely one of the most quaint productions that has ever appeared in its pages. Force of habit appears to be too much for him, and while attempting to defend himself in an illogical position, he wanders off into a sort of prescription by saying "the whole question of competitors wants revision."

When an amateur is found winning prizes in an amateurs' section, and in one reserved for single-handed gardeners as well, it will be admitted by every reasonable person that the Doctor is right, and that revision is indeed sadly wanted; the striking thing in this particular case, however, is that it is he himself who creates the special case for revision. He appears to be working on the good old principle, "Do not do as I do, do as I tell you." As a medical man "the Wimbledon Amateur" is accustomed to giving advice. Probably he could not help it if he tried, but in the present instance some persons may be inclined to think that he should be content with receiving instead of giving it.

One might imagine from Dr. Walker's eagerness to connect someone else with him that he felt by no means sure of his ground in this matter. He turns upon Mr. Shea with the threadbare old "you're another" apology for an argument, and tries to link the latter with himself, but it signally fails to hold good. Mr. Shea is not "another." He stands on different ground altogether. Instead of copying the magnanimous example of showing in a small reserved class, in which there is no credit to be won beyond that of depriving hard-working gardeners in small places (earning 18s. or 20s. a week perhaps) of a little prize money, he enters in an "open" class against the most powerful competition in the country, and achieves a most brilliant and creditable victory. Does the "Wimbledon Amateur" really think that in the eyes of the Chrysanthemum world he, winning a few shillings from those poor fellows in a class that was reserved for them at a local show, and Mr. Shea, bo'dly throwing down the gauntlet to the strongest exhibitors in an unreserved class at one of the largest shows in the kingdom, occupy the same position? And while he is answering this question perhaps he will also tell us whether, since he uses the word "afraid," he exhibited in the leading classes at Wandsworth Show, as well as in the small ones reserved for single-handed gardeners. If so, well and good; if not, was it because the opposition was too strong for him? and if so, will he say who it was that was really "afraid?"

That he had the sanction of the Committee only proves that the latter, by making two distinct sections for different classes of exhibitors, and then allowing the one to mix with the other, stultify themselves. It is to be hoped that they will in future seasons give due weight to Dr. Walker's opinion that the "question of competitors wants revision," and act accordingly. Justice, like charity, should begin at home.—THE JOURNAL REPORTER.

#### AMATEURS EXHIBITING IN GARDENERS' CLASSES.

I HAVE no wish to enter into this controversy, but I notice that in your last issue Dr. Walker imports my name into the matter by remarking that I, an amateur, showed and took a prize (first) in the "open" class (forty-eight Japanese) at the November Show at the Royal Aquarium, and that no gardener's name appeared upon the card. I may be allowed to point out that the fact alluded to scarcely appears to bear upon the question at issue, which, as I understand it, is whether amateurs may rightfully compete in classes nominally reserved for gardeners. I have never showed in these classes, but have considered, what I should have thought no one would be disposed to question, that the "open" classes, as the word suggests, are "open" to all the world—nurseryman, gardener, and amateur. How, therefore, the fact of my competition in the "open" class can affect one way or the other the question of the right of one clearly outside the nominal terms of a reserved class to compete therein I must confess that I am unable to see.

A gardener's name does not appear on my card for the simple reason that it is one of my many hobbies to grow and attend to my plants "from cutting to show board" myself. I observe that Dr. Walker

assumes as a principle that "anyone may show in a class above him." How this may be I do not know, nor am I aware that it has ever been laid down that any one class is "above" another. Suppose, for the sake of argument, that an unexpected accession of amateur skill, coupled with the greater time devoted to the one particular flower by the amateur, brought about the result that amateurs were stronger at the show tables than the single-handed gardeners, would the latter be then entitled to compete in the amateurs' classes on the ground that they were "above" the single-handed gardeners' classes in the only sense that I think it can be suggested that the latter are now "above the former?" If not, where stands Dr. Walker's argument?

I do not think that the suggestion of one class being "afraid" of another should be used as an argument, if for no other reason that it goes dangerously near inviting the retort that if the ambitious amateur is also so very fearless, he has it always in his power to avoid the question raised in the case of Dr. Walker by showing in the "open" classes. If he will do this I think that I may promise the Doctor the same immunity from criticism which has attended the practice which I have hitherto made of confining my exhibits exclusively to that class.

Of course anyone who knows Dr. Walker must also know that he acted with the most perfect conviction that he was right in the view he took, and he has certainly achieved one result, and that is that he has made out a case for legislation upon the point—say by the Committee of the National Chrysanthemum Society.—CHARLES E. SHEA, *The Elms; Foot's Cray.*

#### NEW CHRYSANTHEMUMS.

CULTIVATORS for exhibition know well the advantage of being in possession of the new varieties as soon as they are obtainable, as improvements in any section always score a point or two more than inferior sorts. Apart from their value as exhibition varieties, it is the constant change in form and colour that maintains so great an interest in the Chrysanthemum. Even to those who do not make exhibiting a feature, the introduction of a new variety is of interest. As all growers have not an opportunity to inspect the novelties of the season, and as the descriptions in catalogues are at times a little puzzling, I have transcribed my notes of those which I consider worthy of a place in the revised lists of 1892. The descriptions of some may differ from catalogues for the reason that I fail to find the colours in the flowers as represented in some instances.

INCURVED varieties are introduced so sparingly that any which are really meritorious are sure of a hearty welcome, and are perhaps more eagerly sought after than any other section, therefore deserve a first notice. The present season has been somewhat remarkable for the introduction of several French varieties which possess merit, but as a rule the best are the result of English sports, therefore do not add to the list in variety of form, as they retain the form of the parent in every respect. The colour is the only point in which to expect a change-taking place, hence so many complaints are heard about the lack of variety in this section. With very few exceptions French raised seedlings cannot compare with those from sports, there is such a want of the true incurved form in the former as judged from the English standard; the florets have such a tendency to stand erect instead of incurve correctly.

*Mrs. Robinson King.*—This is a sport from Golden Queen of England, raised by Mr. Hotham, gardener to W. Robinson King, Esq., North Ferriby, Hull. It appears to me to have a greater likeness to Golden Empress than to its parent, having exactly the slightly serrated floret which is at times found in Golden Empress. In any case it is a decided acquisition in point of colour, which is one shade lighter than Jardin des Plantes, and as the latter is not often seen in good condition the new "Queen" sport is sure to become popular amongst exhibition growers; as it will give them another "back row" flower. I have seen blooms measuring 5½ inches in diameter and of proportionate depth, which size at once places it in the front rank as a distinct exhibition variety.

*Madame Darrier* is one of the few varieties in this section of French origin of sufficient merit to receive a foremost position in the section to which it belongs. Although not destined to be a back row flower it will do well for a middle or front row, and for this reason is a valuable introduction, being really wanted more than those for the back rows. Well-grown blooms are nearly upright at the sides, which shows what a solidity of petal and "build" it has; add to this its great depth, and we have qualities desirable in the section to which it belongs. The colour is nankeen yellow with a bronze suffusion; some say it is striped purple, but this colour I fail to find until it shows in the florets with age. This variety produces flowers of two distinct colours, that previously described when developed from crown buds, while the terminals give blooms much flatter, with a distinct purple shade of chestnut. The florets are narrow and pointed, which in the case of crown bud flowers are desirable to make a perfect incurved bloom.

*Ami Hoste* is another of French origin, and worthy of a place. The florets are narrow and pointed; in well-grown blooms they incurve neatly. The colour reminds one very much of Cherub, with perhaps a shade of carmine and gold tipped points of the florets. As a front row flower it should be useful.

*M. R. Bahuant* has been much praised and described. At present it is much too early to be of use to exhibitors at the ordinary November shows. About the middle and end of October it was very fine, but if it is not amenable to treatment to retard its development it will quickly drop out of the lists. Throughout the whole season I did not see it shown in its true character. The blooms lacked depth, which was proof of its earliness, the lower florets having decayed. It has the broadest



florets of any incurved variety we have, quite of the Queen type in habit of growth, probably a seedling from that family. The colour is carmine rose with a cerise shading.

*Brookfield Gem*, a sport from Jeanne d'Arc, is most peculiar in its colouring, being a kind of slatey lilac, having the same properties in the build as its parent; it is sure to be much sought after when more known.

*Madame Frederick Mistral* is of French origin, light violet rose with salmon tips; it incurves neatly, and as such will be valuable as a front row flower in large collections.

*Madame Pierre Louis Blancard* is also of French origin, white with carmine shade; each petal is tipped with gold; is of the Princess of Wales type, though smaller; as a front row flower it should prove useful.

I have seen several more of promise, some seedlings from Princess of Wales, but as they are not to be sent out until 1893 I will refrain from describing them.—E. MOLYNEUX.

(To be continued.)

#### CHRYSANTHEMUMS FOR CUTTING DOWN.

"NORTH COTSWOLD" makes inquiries at page 450 about the best twenty-four varieties of Japanese Chrysanthemums for the above purpose, and as I have had some experience I offer my assistance by naming the following, which will probably suit your correspondent:—

White: *Avalanche*, *C. Wagstaffe*, *Bouquet des Dames*, and *Stanstead White*, while *Mrs. Wright* is very attractive. Blush or delicate pink: *Etoile de Lyon*, *Madame Marie Hoste*, *Miss Anna Hartzhorn*, *Madame J. Laing*, and *Puritan*. Pink and rose: *Madame Baco*, *Vivian Morel*. Crimson: *W. W. Coles*, *Wm. Holmes*, and *Miss Esmeralda*. Purple: *Neptune*, *M. Bernard*, and *Alberic Lunden*. Yellow: *Sunflower*, *President Hyde*, *Mrs. Clinton*, *Martha Harding*, *W. H. Lincoln*, and *Sarah Owen*.

"North Cotswold," no doubt, is well acquainted with cutting down; however, I will remind him that *Stanstead White* and *W. W. Coles* should be cut down early, while *Puritan*, *Neptune*, *Mrs. Clinton*, *President Hyde* and *Sunflower* should be cut down about the 1st of June, and those not mentioned ten days later.—J. PITHERS.

#### READINESS AT EXHIBITIONS.

I WAS an exhibitor in a small way at the Bristol Chrysanthemum Show, and can bear out "Exhibitor's" remarks as to the backward character of the arrangements. Having exhibited at Bath, where, so far as I could see, every class was marked out and cards denoting the class fixed everywhere, it was easy to place my stands in their classes and I might have gone off at once. Mark the difference at Bristol. Getting there about nine o'clock, I found one side of the room, for the larger classes of cut blooms, partially occupied and persons busily engaged in setting up. Beyond the one or two larger classes Chaos reigned supreme. At last I saw an official and asked where my class room was. Oh, he could not possibly tell. I moved my boxes into a corner and waited. Later on I appealed again, and then had a part of the staging marked out, where I had better put them "for the present." This I did, but had I not watched them with the feverish love of a juvenile at the game, the little beauty they possessed in other eyes would have been ruined by the unceremonious shower of plant exhibitors on the more raised portion of the staging. Then I found these plant exhibitors of *Poinsettias*, *Palms*, &c., just as particular about every leaf on their plants as we Chrysanthemum bloom exhibitors on our petals. Jump up on the staging, and put this leaf above that one, down again and criticise. No; won't do. Up again and shift this pot round, and put that leaf over this one. Down again; and so the game went on. Meanwhile, the staging never being very firmly foundationed, the box containing my blooms had sustained sundry shakings, not improving their general appearance. Then the said official—I do not know his name, but willingly testify to the hard work he performed on that memorable morning—told us that where I had put my boxes would surely be wanted for other classes and I had better get the other side of the room. So from pillar to post and post to pillar, the morning wore on, and about 11.30 or 11.45, just an hour or so after the time that the Exhibition was ready, or should have been, for the Judges, we began to see a possible solution to our difficulties, and about twelve I was able to escape from the room.

Now at a splendid exhibition like that of Bristol this is not quite the treatment that exhibitors expect to receive, and the only sort of excuse that can be made for it is that the exhibition seemed unfortunately to have been without a mainspring—without a secretary at the date—and therefore without the official on whose head all errors of omission and commission are sure to fall.

The official in that portion of the Exhibition, I have already said, worked hard, very hard, in trying to bring the state of chaos into order; but should he read these lines, I would say to him, his work would have been easily performed overnight—say Class 25, forty-eight blooms, suppose five entries, that will take so much space, and so on—the staging might have been all marked out the previous night, and this is what it should be.

I do not wish to grumble, but having to stay three hours in a room when half an hour was sufficient is rather a trial, even to one who on that occasion was able to call himself a—SUCCESSFUL EXHIBITOR.

#### HAIRY CHRYSANTHEMUMS.

THESE appear to have been unusually prolific this year, judging from what I have seen and heard. It is nothing unusual to see blooms of the Teck family carrying a few hairs, and especially the variety

Charles Gibson, as alluded to by "Subscriber" (page 473). Cullingfordi has in many places shown the same peculiarity in a few of its florets. Violet Rose is another variety exhibiting the same peculiarity; but perhaps the most remarkable sort in this respect, apart from Mrs. A. Hardy and the newer Louis Boehmer, is *Lalla Rookh*, a carmine buff coloured Japanese, but unfortunately it has no other point to recommend it beyond the hair-like growths so freely covering its florets. By-and-by we shall expect to see a class formed for these varieties.

#### REVISION OF LISTS OF VARIETIES.

Cultivators of Chrysanthemums in any form, those who have been exhibitors in the past season, and those who purpose entering the lists, will now need their lists of varieties revising. Additions are so numerous made in some sections, Japanese especially, that a yearly revision is quite a necessity if cultivators wish to keep pace with the times, and if exhibition is a point of study the new varieties must be added and inferior ones dispensed with. My object in writing this note is to impress upon beginners the great mistake made in overcrowding limited space with varieties merely for the sake of numbers. Far better is it to cultivate an extra plant of a well-tried kind than to burden oneself with those which may turn out worthless for the purpose for which they are required. I am also aware that nowadays there is a great craving amongst Chrysanthemum cultivators for novelty, and although this may prove interesting it is not always remunerative. Many of those which were but a very few years since looked upon as ideal blooms appear worthless beside the newer varieties. I find that the list needs much annual revision. Except in the matter of personal taste, or a weakness for some particular variety for some private reason, such varieties as *Baronne de Prailly*, *Meg Merrilies*, and more of those which are notable for their width only should make room for such as *A. H. Neve*, *W. W. Coles*, *Vivian Morel*, and *Sunflower*. These are the types of flowers which cannot fail to please even those who sometimes object to large blooms. Varieties like those first named are but thin at their best as compared with the newer sorts last quoted. We do not require sorts through which the green boards can be seen when the blooms are staged. Such stretched-out examples do much towards making the cultivation of Chrysanthemums for cut blooms unpopular with those who profess to see no beauty in such huge flowers.—E. M.

#### CHRYSANTHEMUM FLORENCE DAVIS.

IN the note, page 473, on this variety, Mr. Parker says:—"The flowers are very large (8 inches broad and 10 deep)," which is not, to say the least of it, something wonderful. It is not the breadth that I think so much about, but a Chrysanthemum bloom 10 inches deep sets one thinking that a slight error has crept in somewhere in the measurement. Previously I thought 6 inches deep was large for even a Japanese, but to add 4 inches to that makes one wonder how big the new varieties of the future will be. I saw blooms of *Vivian Morel* this season which measured 9 by 6 inches. I thought them extremely large and in grand proportion, but it appears these were a long way off the size attained by the variety which forms the subject of this note.—E.

THE few growers who have been fortunate enough to procure a stock of this grand new variety would not be much surprised to see the note by Mr. Richard Parker on page 473. I do not know that I can say much more in its favour than your correspondent; but growers may be a little mistaken in reading it, seeing that the buds are green, and may be led to think that it is another *Mrs. Alpheus Hardy*, but it is not so. The buds when opening are almost a sea green, but as they expand become the most lovely white. It is a seedling raised by Mr. Norman Davis of Camberwell. Your correspondent seems to be limited to a few plants; but I have had the pleasure of not only growing it myself, but seeing a quantity of the same growing in pots, and in no case have I seen it refuse to open; and I shall be greatly mistaken if we do not see it as freely shown next year as *Avalanche* and *Stanstead White*. It will certainly rank as high as either. I should like to hear what other growers have to say upon this variety.—W. A.

#### CHRYSANTHEMUM CHARLES GIBSON.

HAVING noticed "Subscriber's" query respecting the disposition of this variety to produce hairy florets, I may say that one of my plants last year had some of its blooms rather thickly covered with these appendages, and the cuttings taken from that plant have this year "hirsute" qualities considerably in excess of that of their parent.—WELTON DALE.

NOTICING "Subscriber's" remarks, page 473 in last week's Journal, of his Charles Gibson showing hairy florets, I may add that I have experienced the same with one of my plants. It had six fair-sized blooms on the plant, and all of them showed hairy florets, three in particular, quite as much as *Mrs. Alpheus Hardy*. The colour of all the blooms was of a much deeper bronze, and wider in the florets. I am sorry they are too old to enclose one for your inspection.—S. K.

#### THE OLDFIELD NURSERIES.

TRAVELLING to Broadheath Station, L. and N.W.R., a walk of about ten minutes brought me to the above-mentioned nurseries. Unfortunately the day was of the most miserable description, but as I had journeyed with the intention of giving to the readers of the Journal some little information regarding this enterprising firm that I did not mind the



weather, and after inspecting some thirty-six large houses I felt amply repaid, for bad as the weather was outside I was the greater portion of the day in a congenial atmosphere. The firm of Messrs. Clibran & Son has made rapid strides of late years. Their first catalogue was a small eight page list of 250 copies. This year they have sent out over 80,000 copies, well printed and full of valuable information. In 1872 the Oldfield Nursery consisted of one greenhouse, £20 a year being paid for rent. Now they have over 3 acres of glass alone, and over 100 acres of land, the rental being raised to over £1000. The employes number over 150, and £7000 is paid annually in wages alone. I was fortunate in finding Mr. Clibran at home, and we set out together to inspect the great area of glass. His first greeting was, "I hope you have not come with the intention of seeing a show place. Ours is not so in a sense; it is rather a large plant manufactory;" and I was soon reconciled to the fact that he was right. All the houses are of the plainest description—span-roofed, but excellent for their purposes. It would be quite impossible for me in the space at my command to pretend to give a detailed description of everything I saw in each of the thirty-six large houses, and it could not be expected of me to enter into such minute details, but I will as far as possible deal with some of the more important stocks of plants grown.

#### STOVE PLANTS.

Seldom have I seen such quantities and in such clean condition. Splendid healthy Dipladenias of all the best forms—Brearleyana, amabilis, ornata, Thomas Speed, boliviensis, Lady Louisa Egerton, and insignis, with Ixoras amabilis, Colei, conspicua, Dixiana, Duffi, Morsci, sanguinea, Westi, and Williamsi. Fine plants of Stephanotis were noted, including a very free-flowering variety, and one which will stand the temperatures—viz., Cole's variety. All the above plants were represented in various sizes, and in capital growth. Of Allamandas all the best varieties are grown, one especially, magnifica, surpassed the others by its free flowering and the excellent substance of its large clear yellow flowers. Stigmaphyllon ciliatum (Golden Vine) was charming on the roof of one of the houses. The foliage is extremely pretty, and the flowers suggestive of Oncidium flexuosum. Schubertia grandiflora had pure white flowers, nearly 2 inches across, produced in trusses; they last a long time, and have a delightful almond-like fragrance. These are two plants which can be thoroughly recommended; there are also Bignonias, Tabernæmontanas, Thunbergias, Toxicophleas, Rudgeas, Luculias, Rondeletias of which they have a very fine form, surpassing the ordinary types. Gardenias by the hundred, Dracenas, Anthuriums, Crotons, Clerodendrons, Æschynanthus, Alocasias, Euphorbias, Hoyas, and many other choice stove plants are also included.

#### GREENHOUSE PLANTS.

All classes are to be met with, but the most noticeable were the Bouvardias. Thousands were in full bloom, the sorts largely grown being Vulcan, President Garfield, Purity, President Cleveland, and Mr. Robert Green. There is a great demand for these as young plants, and when in flower for wreaths. Cyclamens were in equal abundance, but not then at their best; Azaleas, the most useful variety being Deutsche Perle, of which some 2000 are forced each year; Calceolarias, Cinerarias, and Primulas were in all stages and pictures of health; Richardias on every hand, and nearly all grown on the single crown system. The variety grandiflora has large spathes, and is altogether a finer growing variety than the old form, while Little Gem is what its name implies, only being about 9 inches or a foot high. Ficus elastica variegata I never saw better. Camellias in all sizes are represented by healthy plants. Clematises were there in thousands, comprising a large number of Jackmani, indivisa, and indivisa lobata, Jackmani alba, and the beautiful double variety Duchess of Edinburgh. The new variety Smith's Snow White is likely to become a favourite. Clanthus magnificus is a far finer acquisition than Dampieri and was flourishing in abundance. Lapagerias in all varieties formed a splendid stock, and the beautiful greenhouse Rhododendrons were also noted in many sizes. In one greenhouse a grand display of Lilium lancifolium album and auratum were in full bloom. About 2000 of the former are grown each year, and 2000 of the latter are imported. Some 1500 L. candidum are forced each year, and 6000 imported. There was a fine houseful of Fuchsias, from 12,000 to 15,000 being sold each spring. Passiflora Watsoniana was unique in the large collection of Passion Flowers.

#### TUBEROUS BEGONIAS.

The Begonia house is 150 feet long and 34 feet wide. Although a little late there were many fine varieties left as witness of what the show had been. Flowers of the finest substance in shades of salmon, pink, crimson, yellow, and all the intermediate shades, and the Picotee-edged were clearly defined. The seedling doubles were extremely beautiful. About 15,000 had been bedded out, and I was informed that notwithstanding the adverse season they had done remarkably well.

#### SOLANUMS.

A house 210 feet long is devoted to the cultivation of these beautiful berry-bearing plants. They are grown in three successions. The first plants were just finishing, the second changing colour, and a third just swelling. Every plant will find a ready sale. This house is heated by steam, and Mr. Clibran says it is excellent for forcing purposes, and is used for forcing Lily of the Valley, Hyacinths, and Tulips; 50,000 Romans, 35,000 large flowering Hyacinths, and 150,000 Tulips are grown annually.

#### ZONAL PELARGONIUMS.

A house 150 feet long is in full bloom at the present time, and a magnificent display they make. No inferior sorts are grown, only the

best varieties are to be seen, and some of the seedlings are very promising. A few of the best are Oldfield Surprise, Jessie Clibran, Lady Vernon, Lady Egerton, Mr. H. Barlow, Mr. T. W. Killick, Oldfield Gem, Rev. Dr. McKennal, Sir Wm. Cunliffe Brooks, and Willie Clibran. Other promising seedlings are on the way. A new bedding variety certificated at Liverpool last August will be sent out by them next season under the name White West Brighton Gem. It has a well-defined leaf and a dwarf habit, and ought to be in large demand. Speaking of new plants, I wish to say a word in praise of the new Tropæolum Mrs. Clibran. As a bedding variety it will become as popular as anything yet sent out. With a wet season like the present it has only grown about 6 inches high, and the clear yellow flowers glisten like gold. It is to be sent out next season, and has been thoroughly tested in every respect.

#### FERNS.

Three or four houses each 150 feet long are set apart for these, the demand being so extensive. Everything old and new is kept in stock. Beautiful young plants of Adiantum farleyense in 5-inch pots were noticeable for the fine fronds they carried. Adiantum Waltoni was decidedly superior to the old A. cuneatum. They were growing side by side, and it is so fine as to warrant a most extensive propagation, and only requires a closer acquaintance to have a large sale. Many thousands of Palms in all sizes are to be seen, amongst which were numbers of the somewhat scarce Kentia Canterburyana.

ROSES.—The principal Rose house is 150 feet long and 28 feet wide, and is filled with Roses in pots packed closely, and nowhere can be found a trace of mildew. They were in rude health, the climbing varieties being especially well grown. Thousands of plants might be counted in various other houses, all bearing the same healthy appearance.

CHRYSANTHEMUMS.—I was a little early for these, but there was sufficient evidence that their cultivation is well understood. They were arranged in a large span-roofed structure in three divisions, the first being filled with large flowering sorts, the others with plants grown specially for cut flowers. In the first I noticed Mr. R. Bahuant, well illustrated in the Journal recently. It is a most pleasing shade, and, as I saw it, must find many admirers. Alberic Lunden has large flowers, after the Stanstead Surprise style; colour a beautiful carmine crimson, with white centre. Coronet.—The largest buds of any in the collection of a light bronzy yellow, globular in form. Mr. A. H. Neve.—Silvery blush, rosy purple centre, long drooping florets, a lovely variety. Gloire de Rocher, Louis Boehmer, and Robert Cannell all gave promise of excellent blooms, and Mr. W. H. Lincoln was charming.

Caladiums had been a splendid show, a few of the best at the time of my visit being Mrs. Harry Veitch, L'Aurore, Ibis, Rose, L. Lorrain, Comte de Germiny, Oriflamme, and Lymington. Orchids are being taken in hand, and a house containing amongst others a fine pan of Cælogyne cristata alba 3 feet across, fine pieces of Dendrobium nobile nobilium, and some choice Cypripediums and Cattleyas. An improved variety of the edible fruiting Passion Flower is here, superior in every respect to the old variety, and is to be sent out very shortly.

The collection of herbaceous plants is extensive and well grown, and of Dahlias the same remark will apply. Shrubs and fruit trees are excellent clean examples. Many other things I could dwell upon, but space forbids. Messrs. Clibran are busy erecting new stables, and other improvements are in contemplation. In addition to the Oldfield Nurseries they have the Stamford Nurseries, Bowdon; and Principality Nurseries, Deganwy, Llandudno. The latter they intend to devote chiefly to the cultivation of fruit trees and Roses. The Roses were doing exceedingly well.—VISITOR.

#### ORCHIDS AND CHRYSANTHEMUMS AT KING'S SCHOOL, WARWICK.

WHAT a fascination both these popular classes of plants have for the majority of those who become interested in their cultivation, and to keep a garden gay throughout the year the best of all methods to adopt is to grow successional supplies of well-selected plants, and make a speciality of them. This is the plan pursued in the garden of the Rev. J. P. Way, who is an enthusiastic horticulturist, and whose gardener (Mr. W. Rouse) manages so admirably all the plants which he takes in hand. At the present time Chrysanthemums are the chief attraction, and a bright varied show they make in the two houses in which they are arranged. Most of the best varieties are grown, as well as many of the older kinds which have been ousted from many collections on account of their not being large enough for exhibition. A notable flower which is not often seen now is Madame de Sevin, which is a useful decorative variety. Mrs. Alpheus Hardy was in good form, almost equal to a fine bloom I saw a few days after at the Birmingham Show. Louis Boehmer was also in fairly good condition, and is certainly a good companion to its hirsute pioneer. Sunflower, Etoile de Lyon, Mrs. F. Jameson, and Stanstead White were conspicuous among the Japanese; and in the incurved section The Queens, Lord Wolseley, Prince Alfred, Violet Tomlin, Refulgens, and Barbara were especially good. The plants throughout were in excellent health, though only grown for providing a good home display. Many of the flowers would have given a good account of themselves if placed upon the exhibition boards.

The Orchid houses were filled with healthy plants of Cattleyas, Odontoglossums, Dendrobiums, Oncidiums, Vandas, and Cypripediums of a useful size for supplying cut flowers, and thereby creating much interest and delight, as the varied markings of flowers of so many types are constantly unfolding some fresh beauty, and stirring up the



imagination to speculate upon the form and markings of others yet unopened.

The *Cypripediums* in themselves made quite a show of quaint beauty. *C. callosum* was carrying several fine flowers; the beautiful *C. Schlimi* was also flowering freely; *C. barbatum superbum* and the well-known and useful *C. insigne* were numerous and good; *C. Fairrieanum* was also in good condition and producing flowers freely. Many good and widely different types of *Oncidium crispum* were in flower; the peculiar bronzy marking of these *Oncidiums* make them especial favourites during the autumn months. The diminutive flowers of *O. ornithorhynchum* were graceful and effective when arranged among those of bolder type. *O. incurvum* was producing many long flower stems which give promise of a quantity of miniature flowers later on. Among *Cattleyas* in flower, *Bowringiana* and *guttata* were the most conspicuous. Several good varieties of the ever popular *Odontoglossum Alexandræ* were in full beauty in one of the cool houses.

The effect produced by this well-managed collection was greatly enhanced by the admirable manner in which the stages and plants were arranged. Instead of the usual straight stages a curving walk was formed through the centre of the house, and the stages fitted to follow the windings of the walk, the edges of them being faced with virgin cork, over which *Fittonias*, *Isolepis gracilis*, and *Panicum variegatum* were growing in careless profusion, thus forming a pleasing finish to the green leaves and bright colours behind them.—D.



**ROYAL BOTANIC SOCIETY.**—The arrangements for 1892 are as follows:—Floral Exhibitions—Wednesdays, March 23rd, April 27th; May 18th. Special Floral Fête, Wednesday, June 22nd. Evening Fête, Wednesday, July 6th, 8 to 12 P.M. Rhododendrons, during June. Musical promenades.—On the Wednesdays in May, June, and July, exhibition and fête days excepted. Lectures.—Fridays in May and June at 4 o'clock. General meetings, for election of new Fellows, scientific discussions, &c., Saturdays at 3.45 P.M.—January 9th, 23rd; February 13th, 27th; March 12th, 26th; April 9th, 23rd; May 14th, 28th; June 11th, 25th; July 9th, 23rd; November 12th, 26th; December 10th. Anniversary, Wednesday, August 10th, at 1 P.M.

— **DEATH OF M. AUGUSTE FRANÇOIS HARDY.**—Many readers will learn with much regret that M. Hardy of Versailles died on the 24th ult. As the able director of the National School of Horticulture in that town M. Hardy was principally known to British horticulturists; but he was also a prominent member of the French National Horticultural Society, and he assisted materially in the promotion of all objects bearing upon horticulture.

— **ACCIDENT TO MR. W. J. GRANT.**—It is with deep regret, a regret which I think will be shared by many of the readers of the Journal, that I have to record a sad piece of news which has just reached me. Mr. W. J. Grant, so well known to most rosarians, in crossing the railway near Monmouth was struck down by an engine and received most severe injuries, including a fracture of the base of the skull. Little hope is entertained of his recovery.—D., Deal.

— **GARDENING APPOINTMENTS.**—We learn that Mr. George Hemming, late head gardener at Beechfields, Doncaster, has been appointed superintendent of the various public parks in Sheffield belonging to the Sheffield Corporation. Mr. Hemming is well known in Leeds, Doncaster and Sheffield, as an able and experienced gardener, and will doubtless by his works justify his selection for so responsible a post. Mr. R. C. Townsend, Mytton Hall, Shrewsbury, Salop, has been appointed head gardener to Colonel Lloyd, Aston Hall, Oswestry, Salop. Mr. H. Prosser, late gardener to the Right Hon. Lord Heytesbury, has been appointed head gardener to H. J. Miles, Esq., The Knoll, Wimborne, Dorset.

— **ROYAL METEOROLOGICAL SOCIETY.**—At the ordinary meeting of the Society, to be held at 25, Great George Street, Westminster, on Wednesday, the 16th inst., at 7 P.M., the following papers will be read:—"Report on the Thunderstorms of 1888 and 1889," by William Marriott, F.R.Met.Soc. This paper will be illustrated by a number of lantern slides. "On the Prevalence of Fog in London During the Twenty Years, 1871-1890," by Frederick J. Brodie, F.R.Met.Soc.

— **CHRISTMAS ROSES.**—A Totnes correspondent sends us some of the finest samples of Christmas Roses we have seen, most of them exceeding 4½ inches in diameter, and bearing two blooms on a stem. They are, moreover, very pure, and therefore valuable for decorative purposes.

— **NATIONAL CHRYSANTHEMUM SOCIETY** held its annual dinner at Anderton's Hotel, Fleet Street, last week, when Mr. R. Ballantine presided, and about 120 members and friends were present. The evening was a very pleasant one, and proved highly satisfactory to all who attended.

— **FINE CYCLAMENS.**—Mr. William Mowbray, gardener to the Hon. H. C. Legge, Fulmer, Slough, sends us some Cyclamen flowers and leaves for inspection. The plants are now in 24-size pots. The plants were raised from seed sown in October, 1890. They are from 15 to 18 inches through the foliage. Last year eight dozen blooms were gathered from one plant at one gathering, and the same good results are expected this year. The leaves are remarkable for their substance, and the flowers for their size, brilliancy, and purity. We have seen few samples to equal and none to surpass the specimens before us. The able grower of them would do good service to many by sending details of his methods of culture for publication.

— **LYCIUM AFRUM.**—At the latter end of November I was at Armatage, near Rugeley, Staffordshire. Between the station and Armatage is a most conspicuous shrub in full berry. The berries are of an oblong shape, and bright scarlet. The shrub is trained over a cottage door. I never saw this shrub in fruit before, and I beg to ask, Does this shrub flower in many parts of England? A gentleman writes me from Armatage to say the name is *Lycium Afrum* or Box Thorn, an African tea tree, and a native of Good Hope.—R. H. D. [The *Lycium* is frequently seen in some parts of England, more especially in the south.]

— **IVY INJURIOUS TO WALLS.**—At page 447 "E. D. S." says, "Some assert that Ivy causes dampness to buildings against which it is grown, but I have no hesitation in saying it is a false idea." I quite agree with "E. D. S." when he says that Ivy "throws off the rain that falls upon them." But it does more; it prevents evaporation, which appears to be an essential to Ivy, and walls clothed with Ivy are in a constant and chronic state of dampness (if the latter word can be allowed), and such constant dampness is more injurious to health than if water ran in a constant stream down the walls. Lime and stone also crumble and decay more quickly under Ivy than when exposed, which I have learnt from experience.—W. T.

— **THE WEATHER LAST MONTH.**—November was very foggy, with much showery weather also, and remarkable for the very low reading of the barometer (28.32) on the 11th at noon. We had ten bright days. Wind was in an easterly direction the first half of the month, and mostly westward during the remainder. Barometer was highest—30.65—at 9 A.M. on the 5th; lowest, 28.32 at noon on the 11th. Highest shade temperature 57° on the 18th; lowest, 24° on the 8th; lowest on grass, 20° on the 8th and 28th. Mean of daily maximum temperatures, 48.40°; mean of daily minimum ditto, 35.40°. Mean temperature of the month, 41.90°. Total rainfall, 3.14 inches, which fell on twenty days. The greatest daily fall being 0.81 on the 15th. The garden spring ran 30 gallons per minute on the 30th.—W. H. DIVERS, Ketton Hall Gardens, Stamford.

— **THE CHINESE ARTICHOKE (STACHYS TUBERIFERA).**—As this delicious vegetable seems to be so little known in this neighbourhood I have been induced to send an account of my experience in its cultivation to your valuable paper, trusting it may be interesting to some of your readers. I think that when it becomes better known it will be largely grown, as it comes in for use at a time when choice vegetables are very limited. I selected full-sized tubers, and planted them on the 24th of April last on a piece of rich ground well pulverised. Six rows 30 feet long were planted 18 inches between the rows, and about 9 inches apart in the row, covered about 3 inches with soil. The hoe was run through two or three times at intervals in the early part of the season; but the plants soon covered the ground, forming neat bushes about 15 inches high, branching freely, and they kept down all weeds. We commenced lifting them for use on the 7th November. The tubers range from 1 to 2½ inches in length, and about three-quarters of an inch in diameter at the thickest end, and are produced in immense numbers. When cooked by boiling or steaming, and served with melted butter in the same manner as Jerusalem Artichokes, they make an acceptable



dish, and I hope that by lifting them before severe weather, and storing the bulk of them in a pit the same as Potatoes, I shall be able to keep them in good condition for use through the present winter.—  
JOS. PUNTON, *Benwell Dene Gardens, Newcastle-on-Tyne.*

— WISTARIA SINENSIS SEEDING.—At a meeting of gardeners in a Sussex village two or three years ago the question of special prizes for a local Show was being discussed, when a veteran offered to give a prize of 5s. to the man who could produce a pod of seeds of the *Wistaria sinensis*. This, seemingly, is rather a hard nut to crack; for though there are several fine specimens of this climber in the neighbourhood the prize has never been claimed. The old gentleman told his hearers that he had himself produced seed pods, and that they were at the time laid before Dr. Lindley, and duly chronicled by the Press. This incident was brought to mind on reading "E. D. S.'s" note on this fine hardy climber in your pages of November 19th (page 424). Can any of your correspondents give instances of its having produced seeds in this country? And also can any reason be assigned why it should not produce seeds except on rare occasions?—R. I.

— THE following is the WAKEFIELD PAXTON SOCIETY'S programme of meetings for the fourth quarter—Session 1891-92. The meetings are held at the Society's Rooms, Saw Hotel, Westgate, each Saturday evening, commencing at 8 o'clock prompt:—Dec. 5th, "The Amateur Gardener," Mr. J. Haigh, Sheffield. Dec. 12th, "Brusse's Sprouts" (exhibition of specimens), Mr. W. Hudson. Dec. 19th, "Hardy Perennial Plants, their Habits and Culture," Mr. John Wood, Kirkstall. Dec. 26th, Bank Holiday. Jan. 2nd, Musical evening. Jan. 9th, "Agricultural—Soils, their Formation, Character, and Cultivation," Mr. J. Metcalfe. Jan. 16th, "The Evolution of Plant Life," Mr. T. Tate, F.G.S., Leeds. Jan. 23rd, "A Selection of Vegetables Suitable for this District," Mr. E. Fenner. At this meeting an election will be made of the most suitable varieties of vegetables, all growers are desired to take part in the same; papers will be supplied by the Secretaries. Jan. 30th, "Earthquakes and Volcanoes," Mr. H. J. Martin, Rothwell. Feb. 6th, "Decorative Use of Flowers," Mr. W. Wardman. Feb. 12th (Friday), "The Florist *Ranunculus*," Rev. F. D. Horner, Kirkby Lonsdale. Feb. 20th, "The Peach," Mr. C. Fletcher. Feb. 27th, "A Prolific Bloomer," Mr. B. Whiteley. March 5th, Annual Meeting.

— DOUBLE MIGNONETTE.—I am unable to send you a good specimen of the double Mignonette about which I wrote a short note recently. The small pieces sent with this give quite an inadequate idea of the flower, both with regard to its peculiarity and its value as a commercial plant. I feel much indebted for Mr. Henslow's paper, which I duly received. The Mignonette figured and described in it is almost identical with the one I wrote about. I was much struck with the similarity of the origin of both, in each case having been discovered in the seed beds of nurserymen. The only difference between these two Mignonettes that I can observe is that the one mentioned by me is more compact in the panicle than the one described by Mr. Henslow, which the figure represents as having a lax inflorescence and a rather slim peduncle. Why is the name *alba* given to this proliferous variety, seeing that the petals of the normal type of *Reseda odorata* are white? With regard to Messrs. Sutton & Sons' remarks anent this variety bearing seed, I can only say that Mr. Treseder informs me that he has never yet discovered a fertile flower on any of the plants, and he has had them under his close observation for two years.—W. W. PETTIGREW. [The specimen sent had very full pure white and extremely fragrant flowers.]

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, 56 feet above mean sea level, November. Mean temperature of month, 41.1°. Maximum on the 18th, 55.5°; minimum on the 30th, 25.2°. Maximum in the sun on the 2nd, 97.4°; minimum on the grass on the 30th, 17.8°. Mean temperature of the air at 9 A.M., 40.2°; mean temperature of the soil, 1 foot deep, 43.6°. Nights below 32°, in shade eleven, on grass twenty-one. Total duration of sunshine, thirty-one hours, or 12 per cent. of possible duration. Thirteen sunless days. Total rainfall, 2.48 inches. Rain fell on twenty-two days. Average velocity of wind, 8.1 miles per hour. Velocity exceeded 400 miles on one day, and fell short of 100 miles on seven days. Approximate averages for November:—Mean temperature, 41.7°; rainfall, 2.04; sunshine, fifty hours. A dull and calm month, rather wetter and colder than the average. The barometric depression of the 11th is the lowest recorded, except that of December, 1886, but the gale did no damage of any consequence here.—J. MALLENDER.

— WEATHER AT RIPLEY, YORKS, DURING NOVEMBER.—The past has been a dull sunless month, only one bright day occurring. Rain fell on twenty-one days, total for the month being 2.95 inches, of which 0.89 fell on the 10th. The soil is in a very saturated condition, which sadly impedes work on the land. Frost was recorded on sixteen days, the most severe being 13° on 28th, and 12° on the 30th. At 9 A.M. on the 5th the barometer stood at 30.85; mean reading of barometer, 30.64; mean maximum temperature, 45.9°; mean minimum temperature, 31.9°; mean temperature, 38.9°. The total rainfall recorded here from July 1st to November 30th, inclusive, is 15.92 inches. Up to to-day, 8th, December has only yielded us one fine day, and as I write the rain is falling heavily. The River Nidd gives promise in a few hours of overflowing, and, on the whole, things look anything but cheery.—  
J. TUNNINGTON, *Ripley Castle Gardens, Yorks.*

— PEAR MARECHAL DE COUR.—Of November Pears there are few to rival the above named in quality, and being of a free bearing disposition, intending planters ought to secure at least one tree if the variety is not already represented in sufficient numbers. Unlike many sorts it does not decay at the core immediately it is fully ripe, but remains in fine condition a good time after maturing. I have had this variety sometimes as late as Christmas, but the season has such varying influences on Pears that it must not be planted with the view of securing its fruit at that date. It forms a good pyramid, and has quite a distinct but somewhat spreading style of growth, and bears freely almost every year. Under good cultivation the fruit grows to a large size, which is an additional point in its favour, but the dense russet coloured skin does not present the same attraction on the exhibition table as the clear coloured varieties. This, however, is of but small moment for home use, quality and good size sufficing for general purposes, and on the exhibition dish competent judges will estimate its sterling qualities as being above that of many of the more handsome in appearance. Dr. Hogg in his "Fruit Manual" describes it as one of the finest Pears in cultivation, and many could, if it was found necessary, bear out the Doctor's excellent testimony. It is also known by the title *Conseiller de la Cour*, but the correct name, I believe, is that which heads this note.—W. S.

— THE HORTICULTURAL ATTRACTIONS AT THE WORLD'S FAIR, CHICAGO, in 1893, are increasing. The following are the latest announcements. The Agricultural Department of the Government will make an exhibit of fac-simile casts of all of the 200 varieties of edible Mushrooms which grow in the country. Hugh Price, one of the Wisconsin Commissioners, has made arrangements for securing for the World's Fair a mammoth Cork Pine, a tree which is growing rare in his State. It is 24 feet in length, and will scale 2500 feet. One plank is 16 feet long, 3 inches thick, and 44 inches wide, without a knot or blemish. The native flora of each State and Territory will be shown at the Exposition, under the direction of Chief Thorpe, who has enlisted the Lady Managers to undertake the collection of specimens. On the roof of the Horticulture Building, around the central dome, an elaborate display of roof-gardening will be made. It is expected that this will not only be pleasurable to visitors, but will afford valuable suggestions that will be utilised by persons who live in large cities and are deprived of door-yards and lawns. In the centre of the Horticulture Building will be a miniature mountain, 70 feet high, upon which will grow giant Tree Ferns and Palms, and other vegetation, finding there a congenial home. A mountain stream will dash from one declivity to another and play hide-and-seek with the foliage. Beneath this rock mountain will be a cave, 80 feet in diameter, and 60 feet high, brilliantly lighted by electricity, where, during the whole six months of the Exposition, the experiment will be tried whether plants will grow under electric light as well as under sunlight. Chief Thorpe, of the Floriculture Division, originated the plan.

— PROFITABLE FRUIT CULTURE IN AMERICA.—Mr. M. A. Thayer, who has demonstrated practically that small-fruit culture can be made profitable in Wisconsin, has just published a report from his fruit farms at Sparta which, from his careful method of keeping accounts and the generous spirit manifested, seems worthy of commendation. Five years ago the question of growing small fruits there was doubtful, and he therefore gives a full account of his outlay and income. The first year he planted 8 acres of Blackberries, 7 of Raspberries, and 2 of Strawberries, at a total expense of 1618 dollars with no income. The second year he added 8 acres, and his total expenses were 2462 dollars, and his income was 926 dollars. The third year he set 10 acres more to small fruits; his expenses were 3394 dollars, and



his receipts 4432 dollars, or considerably more than 1000 dollars profit. The fourth year, or 1891, the expenses were 4500 dollars, and the receipts 8846 dollars, with a profit of 4346 dollars. The receipts and expenditures are itemised, and the report concludes with advice to beginners to go slow, doing only as much as can be done well, since nothing but the best production will pay, and it may safely be estimated that, besides the land, every acre of small fruit properly prepared, planted, and brought to a bearing age will cost from 125 dollars to 150 dollars, or their equivalent in honest work at 1.25 dollars a day. Mr. Thayer's

It is one of his informal low standard trees, of which he has so many, and which produce an abundance of large and luscious Peaches and Neectarines every year. The crops never fail under the light roof of this large house with boarded sides, and just one hot-water pipe to temper the cold when needed.

He has other houses and other trees of varied shapes and sizes, the handsome pyramids from 4 to 10 or 12 feet high being pictures of beauty, both when laden with blossom in the spring and ripening their rich, crimson, and many-tinted fruits in the summer.



FIG. 91.—MR. T. FRANCIS RIVERS AT HOME.

concluding counsel is: "Begin modestly, subscribe liberally to good papers, increase your plantation as experience is gained," and he promises to answer questions on particular points by mail or otherwise, or send short, plain instructions for growing small fruits, free, to any one who will send his name.—(*American Garden.*)

#### MR. RIVERS AT HOME.

"QUITE at home," it will be admitted Mr. T. F. Rivers is, as in a characteristic mood he appears as if studying one of the trees in his orchard house, and possibly counting its fruits.

Mr. Rivers is emphatically a Peach and Neectarine man, the raiser of more new varieties than any other person, and is a consummate cultivator.

The tree he is examining is not one of those which supply 40s. a dozen fruits early in the season, but is one of his old favourites, which represents Peach-growing made easy; no training, no pinching, the simplest possible pruning, and always plenty of fruit in its season. When we came across the photograph we at once thought it appropriate for reproduction, and the chief figure in it will, perhaps, be a little surprised when he opens his Journal to-day. His mood will then change to either a frown or a smile, and a smile we shall hope it will be.





## NATIONAL ROSE SOCIETY.

THE annual meeting of this Society was held in the Horticultural Club Rooms, Hotel Windsor, on Wednesday last, Dec. 9th, when the Very Rev. Dean Hole presided over one of the largest gatherings the Society has ever had, over fifty members being present, representing all the principal districts. It was also one of the most interesting, for never has discussion been so vigorously conducted at these meetings. After the reading of the Report the Rev. W. Wilks, who occupied the chair until the arrival of the President, proposed its formal adoption, which led to considerable discussion as to the desirability of altering the date of the Crystal Palace Show. Ultimately, however, the wording given in the paragraph below referring to the arrangements for 1892 was that adopted.

A much more important matter was, however, raised by the following proposed new regulation—namely, that “At the two principal exhibitions of the Society amateur exhibitors shall be required to show according to the number of plants of ‘exhibition’ varieties grown by them.” This was proposed by Mr. C. J. Grahame, seconded by the Rev. F. R. Burnside, and supported by several prominent rosarians, though it was also opposed by others. The subject was discussed very thoroughly, and after the disadvantages under which the smaller amateur growers labour when in competition with those who grow large collections had been duly argued, it was adopted with some dissentients as a recommendation to the Committee who have to consider in what way the regulation can be best applied.

Amongst other resolutions carried were the following:—“That the report and financial statement be adopted, printed and circulated; that the best thanks of the Society be communicated to the Horticultural Club for the use of their Rooms during the past year; that the thanks of the Society be given to the officers and other members of the Committee for their services during the year, and that Regulation I. be altered so as to read, “The Society shall hold one, or more, metropolitan shows in each year, and provincial shows when practicable.”

## REPORT OF THE COMMITTEE FOR THE YEAR 1891.

SELDOM have Rose growers, Rose exhibitors, or Rose exhibitions had such a difficult year to contend against as that of 1891. Taking the country throughout, very great injuries were inflicted on Rose plants generally, and especially upon the Teas, by the severity of last winter, and the aggregate losses must have been considerable. The spring and summer also proved unseasonably cold and backward; in fact, so much so, that none but the earliest districts were well represented at either the Tea and Noisette Show at Westminster, or at the Metropolitan Exhibition. The first of these shows, although a small one, contained several stands which were surprisingly good considering the season. The Crystal Palace Exhibition proved as extensive as usual, but from the causes referred to above the general quality of the flowers was necessarily below the average. On the other hand, the Exhibition held at Hereford nearly a fortnight later proved in every way a great success, and was, with one exception, the largest provincial show the Society has yet held. The thanks of the Society are due to the Committee and Secretaries of the Hereford and West of England Rose Society for the admirable manner in which the arrangements in connection with this Show were carried out, and also to the Mayor of Hereford for the hospitality shown by him to all members attending the Exhibition.

The Society still continues to make steady progress, and to extend its influence in all matters relating to the exhibition, culture, and improvement of the Rose. The number of members and of affiliated societies is well maintained, and quite recently an application for affiliation has been received from a horticultural society in Tasmania.

## FINANCIAL STATEMENT.

This the Committee cannot but regard as very satisfactory, considering that three exhibitions have again been held, and that a larger sum has been expended in prizes than in any previous year. The total receipts have amounted to £677 18s. 11d., and the expenditure to £637 18s., leaving a balance for the financial year of £40 0s. 11d. The Society has now been established fifteen years. During the first five years the average amount received annually in subscriptions was £229, in the next five years £283, and in the last five years £333.

## NATIONAL ROSE SOCIETY BALANCE SHEET, YEAR ENDING 30TH NOVEMBER, 1891.

RECEIPTS.									
1890. Dec. 1st.								£	s. d.
Balance at Bankers .. .. .	..	..	..	..	..	..	..	36	0 8
Subscriptions .. .. .	..	..	..	..	..	..	..	359	0 6
Affiliation Fees and for Medals from Affiliated Societies .. .. .	..	..	..	..	..	..	..	79	6 0
From Crystal Palace Company .. .. .	..	..	..	..	..	..	..	105	0 0
From Hereford .. .. .	..	..	..	..	..	..	..	80	0 0
Special Prizes .. .. .	..	..	..	..	..	..	..	16	8 0
Catalogues Sold .. .. .	..	..	..	..	..	..	..	2	3 9
								£677	18 11
1891. Dec. 1st.									
Balance .. .. .	..	..	..	..	..	..	..	£40	0 11

EXPENDITURE.									
Printing, Stationery, Advertising .. .. .	..	..	..	..	..	..	..	88	5 0
Postage, Telegrams, and Sundry Expenses .. .. .	..	..	..	..	..	..	..	26	10 11
Secretary's Travelling Expenses to Arrange Shows .. .. .	..	..	..	..	..	..	..	4	10 0
Expenses Drill Hall Show .. .. .	..	..	..	..	..	..	..	1	17 0
„ Crystal Palace Show .. .. .	..	..	..	..	..	..	..	9	3 0
„ Hereford Show .. .. .	..	..	..	..	..	..	..	7	15 6
Medals .. .. .	..	..	..	..	..	..	..	7	5 1
„ for Affiliated Societies .. .. .	..	..	..	..	..	..	..	64	2 0
Prizes Drill Hall Show .. .. .	..	..	..	..	..	..	..	34	10 6
„ Crystal Palace Show .. .. .	..	..	..	..	..	..	..	263	2 0
„ Hereford Show .. .. .	..	..	..	..	..	..	..	160	17 0
Assistant Secretary and Accountant .. .. .	..	..	..	..	..	..	..	20	0 0
Balance at Bankers .. .. .	..	..	..	..	..	..	..	40	0 11
								£677	18 11

THOMAS BURT HAYWOOD, *Hon. Treasurer.*

Audited with vouchers and found correct,

J. D. PAWLE,

F. T. WOLLASTON, } *Hon. Auditors.*

## ARRANGEMENTS FOR 1892.

The Tea and Noisette Exhibition will again be held under the auspices of the Royal Horticultural Society, at their Drill Hall at Westminster, on Tuesday, June 21st; while the Metropolitan Exhibition will take place at the Crystal Palace on the first Saturday in July. At the request of the Mayor and Corporation of Chester the Society's Provincial Exhibition will be held in that city on Thursday, July 14th. The central position of Chester, the interest attaching to the city itself, and the great facilities of railway access from most parts of the country, together with the assistance promised by the leading rosarians of the district, all combine to make the Committee hopeful that a most successful Exhibition will next year be held there.

## AFFILIATED SOCIETIES.

The Committee are of opinion that definite instructions should be drawn up and forwarded each year to the secretaries of the affiliated societies as to the terms on which medals are supplied, and also as to how far the Society's regulations are binding on these societies. Some of the schedules issued by affiliated societies during the past year contained little or no reference to the regulations of the parent Society.

## MEMBERS' PRIVILEGES.

Subscribers of £1 will, as in previous years, be entitled to two private-view tickets for the Society's Exhibitions at the Crystal Palace and Chester, and to four transferable tickets admitting at the same time as the general public; while subscribers of 10s. are entitled to one private-view and to two transferable tickets. Each member will also receive one ticket of admission to the early Exhibition of Tea Roses at Westminster. New members will be entitled to a copy of the Society's illustrated catalogue of exhibition and garden Roses, and of the supplement to this catalogue issued in 1890. Members alone are allowed to compete at the Society's exhibitions.

The Committee, following a now established precedent, desire in conclusion to tender their best thanks to their local Secretaries, to the donors of special prizes, and also to all those who have in other ways assisted in helping forward the work of the Society. Their thanks are especially due to Mr. C. J. Grahame for obtaining for the Society during the past year a large number of new subscribers.

## SEASONABLE NOTES ON ROSES.

TRANSPLANTING ROSES.—The immature condition of the young wood on Roses generally has, or ought to have had, the effect of delaying transplanting considerably. Moved when the foliage is fresh and the wood still very green and growing, shrivelling is almost certain to take place. It is scarcely possible to lift Roses with a ball of soil about the roots, and not a few of those transplanted in October have suffered badly from this over-hasty proceeding. The end of November would appear to be nearer the proper time for moving Roses this season, and should the present mild moist weather last fresh root fibres may yet be formed before midwinter. Now, weather permitting, is therefore a good time to move young plants to where they are more required, and also to lift and replant apparently worn-out old standards and bushes, replanting in quite fresh soil putting new life into these. It is next to useless planting Roses in either lumpy or very poor soil, and if the ordinary soil of the new site is either poor or unworkable quite fresh compost should be substituted, nothing answering better than fresh loam, fibrous or otherwise, and a liberal addition of decayed manure and burnt garden refuse. In any case that which comes into contact with the roots should be moderately fine and rich, thus favouring an early and strong root action. Nor ought Roses to be transplanted while the ground is in a sodden state. They must have the soil well refixed about the roots, and the necessary trampling of wet soil would amount to puddling, than which nothing could well be more injurious.

PLANTING YOUNG ROSES.—Much of the foregoing also applies to the work of planting either home-raised or newly purchased Roses where they are to remain for some time. If the latter, when received, cannot be planted properly owing to either the very wet, or, it may be, badly frosted ground, they ought to be laid in singly, yet closely together, where they can be temporarily protected with mats or litter, the roots being first lightly pruned, and then well interspersed among fine good soil. They may have to remain in this for several weeks or months to come, and the aim should be, therefore, to both promote the formation of fresh root fibres—and which heeled-in plants are very prone to do—



and also to take good care of these same delicate fibres. Very few of the latter will be lost in moving them out of tight, fine soil, and plenty of the latter, as before hinted, ought always to be used in planting Roses. It may be asked, Why order Roses when there is not much likelihood of their being finally planted for some time longer? But it must be remembered that there is every probability of the nurserymen's stocks being early exhausted this planting season. Orders have already been largely received, and the stocks are far from being up to the average in numbers. Standards of both Hybrid Perpetuals and Teas are the first to suffer from severe frosts, and frequently fail badly where dwarfs have succeeded well. For beds wholly given up to Roses, standards might well be interspersed among dwarfs, the latter being disposed not less than 2 feet apart each way, and be the most extensively planted. Dwarfs are also the best for massing in borders or the kitchen garden. Own-root Roses are to be preferred to any worked on stocks of any kinds, but these cannot be bought. If, however, the point of union of scion with stock is buried 2 inches below the surface the good fresh soil surrounding will usually cause the former to emit roots freely, so that it soon amounts to their being own-root Roses. To raise the Manetti stock above the ground is fatal to good progress, an early death being far more likely to occur. They must, therefore, be buried below the ordinary border level. Standards on the Briar stock and bushes raised from cuttings ought not, however, to be deeply planted, the collar being kept just up to the surface. Too often Roses are planted and then left to take their chance till pruning time arrives. Not a few are furnished with one or two extra strong shoots, and it is largely owing to these that the roots are being constantly loosened, and a good sized hole formed by the oscillating stems. If these strong shoots were materially lightened, or say, made into cuttings at once, the wind would have far less power over the bushes; but whether this light pruning is done at once or not, there should be no delay in staking standards. Wooden stakes are to be preferred to iron ones, the latter being cold-conducting and injurious to the stems accordingly. Much exposed dwarfs ought also to be supported by stakes, and all should have the benefit of a loose mulching of strawy litter, this being added or loosened up considerably so as to protect the lower portion of the bushes whenever severe frosts are imminent. This may be the means of saving the lot, the loss of the upper portion of dwarfs not greatly impairing their usefulness, but rather the contrary.

**TEA AND OTHER ROSES.**—Teas and some few of the Noisettes succeed fairly well in the open as standards and more often as dwarfs, especially if protected during the winter with a heavy mulch of either bracken or strawy litter as just suggested for newly planted Roses generally. It is against warm garden and house walls and fences that they are most at home, and they ought to occupy all such sites to the utter exclusion of Hybrid Perpetuals generally. Even these will do but little good if starved at the roots, but if given the benefit of a fairly deep and rich loamy root run, it is really surprising what grand blooms will be forthcoming, the season extending from May to November inclusive. It is only those starved at the roots that are addicted to mildew; therefore plant in wholly fresh and fairly rich loamy compost. Teas and Noisettes were rather hard hit by frosts last winter, but they recovered better than expected. It would pay well to cover strong trees with mats, or even to protect with branches of Spruce or other Firs during the prevalence of severe frosts. China and the Hybrid Bourbon and China Roses, are also well worthy of a place against sunny fronts of dwelling houses, the first-named being almost continuous flowering, and are better known as the "Old Monthlies."

**OWN-ROOT ROSES.**—Many of the Hybrid Perpetuals strike root nearly as readily as Gooseberries, the cuttings being formed of well-ripened young wood. Late in October or early in November is a good time to insert these cuttings, but this year the wood is in a very backward state, and still largely clothed with green leaves. Long and strong shoots are more abundant than usual, and it is not yet too late to make the attempt to strike many of these. Prepare a good open border by well working it, mixing in a little old Mushroom bed manure or leaf soil. For cuttings select the best ripened shoots, and if it can be done without injury to the bush cut them off with a small slice of old wood—that is to say, a heel attached. The latter, though, is not indispensable, lengths of firm young wood cleanly cut to a joint answering nearly as well. All should be about 12 inches long, and cleared of thorns, but not buds, and be inserted directly they are made. Open a straight trench 6 inches deep with a spade, put in the cuttings 9 inches apart, return half the soil, trample this firmly against the cuttings, and then level over the ground prior to opening the next trench 18 inches apart from the first. Mulch over the surface with either short manure, leaf soil, or ashes. Most of the cuttings will strike root and flower next summer, and will require to be thinned out the following planting season.—A SOMERSET GROWER.

### THE CHEMISTRY OF GARDEN CROPS.

IN the fifth edition of Messrs. Sutton & Sons' excellent work, "The Culture of Vegetables and Flowers from Seeds and Roots," are several new chapters of great interest and importance to cultivators, one of which we take the liberty of reproducing. As an illustration of the appreciation in which this work is held, it may be stated that 18,000 copies have been sold of the four preceding editions, and of the fifth no less than 10,000 have been printed.

A CONSIDERATION of the chemistry of the crops that engage attention in this country will afford an explanation of one great

difference between farming and gardening. And this difference should be kept in mind by all classes of cultivators as the basis of operations in tillage, cropping, and the order and character of rotations. The first thing to discover in the cropping of a farm, is the kind of vegetation for which the land is best adapted to insure in a run of seasons fairly profitable results. If the soil is unfit for cereals, then it is sheer folly to sow any more corn than may be needful for convenience, as, for example, to supply straw for thatching, and oats for horses, to save cost of carriage, &c., &c. On large farms that are far removed from markets, it is often necessary to risk a few crops that the land is ill fitted for, so as to satisfy the requirements of the homestead, and to save the outlay of money and the inconvenience of hauling from distant markets. But everywhere the cropping must be adapted to the soil and climate as nearly as possible, both to simplify operations and enlarge to the utmost the chances of success.

In the cropping of a garden this plain procedure cannot be followed. We are compelled certainly to consider what the soil and climate will especially favour amongst garden crops, but notwithstanding this, the gardener must grow whatever the household requires. He may have to grow Peas on a hot shallow sand, and Potatoes and Carrots on a cold clay, and Asparagus on a shallow bed of pebbles and potsherds. To the gardener the chemistry of crops is a matter of great importance, because he cannot restrict his operations to such crops as the land is particularly adapted for, but must endeavour to render his land capable of carrying more or less of all the vegetables and fruits that find a place in the catalogue of domestic wants. That in certain cases he must fail at certain points is inevitable; nevertheless his aim will be, and must be, of a somewhat universal kind, and a clear idea of the relations of plants to the soil in which they grow will be of constant and incalculable value to him.

We are bound to say at the outset that a complete essay on the chemistry of vegetation is not our purpose. We are anxious to convey some useful information, and to kindle sufficient interest to lead those who have hitherto given but slight attention to this subject to inquire further, with a view to get far beyond the point at which we shall have to quit the subject.

Plants consist of two classes of constituents—the inorganic, which may be called the foundation; and the organic, which may be considered the superstructure. The first alone concerns us now. A plant must derive from the soil certain proportions of silica, lime, sulphur, salt, phosphates, alkalies, and other minerals, or it cannot exist at all; but given these, and its manufacture of fibre, starch, gum, sugar, and other organic products will depend very much upon the action of light, heat, atmospheric air, and moisture upon it, for these have to be produced by chemical (or vital) action within the structure, or, as we sometimes say, the tissues of the plant itself. To a very great extent the agencies that conduce to the elaboration of organic products are beyond our control (though not entirely so), whereas we can directly, and to a considerable degree, provide the plant with the minerals it more particularly requires, first by choosing the ground for it, and next by tilling and manuring in a suitable manner. A clay soil, in which in addition to the predominating alumina, there is a fair proportion of lime and silica may be regarded as the most fertile for all purposes; but we have few such in Britain, our clays being mostly of an obdurate texture, retentive of moisture, and requiring much cultivation, and containing, moreover, salts of iron in proportions almost poisonous to plants. But there are profound resources in most clays, so that if it is difficult to tame them it is also difficult to exhaust them. Hence a clay that has been well cultivated through several generations will generally produce a fair return for whatever crop may be put upon it.

Limestone soils are usually very porous and deficient of clay, and therefore have no sustaining power. Many of our great tracts of mountain limestone are mere sheep walks, and would be comparatively worthless except for the metals that may be extracted from them, or the lime that may be obtained by burning. On the other hand, chalk, which is a more recent form of lime, is often highly productive, more especially where, through long cultivation, it has been much broken up and has become loamy through accumulation of humus. Between the oldest limestone and the latest chalk there are many intermediate kinds of calcareous soils, and they are mostly good owing to their richness in phosphates, the products of the marine organisms of which these rocks in great part and in some cases wholly consist. For the growth of cereals these calcareous soils need a certain proportion of silica, and where they have this we see some of the finest crops of Wheat, Trifolium, and Peas and Beans in all these islands. If we could mix some of our obdurate clays with our barren limestones, the two comparatively worthless staples would probably prove remarkably fertile. Although this is impossible a consideration of the chemistry of the imaginary mixture may be useful, more especially to the gardener, who can in a small way accomplish many things that are out of the region of practice on a great scale.

Sandy soils are characterised by excess of silica, and deficiency of alumina and phosphates. But here the mechanical texture is as serious a matter as it is in the case of clay. The sand is too loose as the clay is too pasty, and it may be that we have to hold the estate as it were in our hands to prevent it from being blown away. It is especially worthy of observation, however, that sandy soils are the most readily amenable of any to the operation of tillage; and if we cannot take much out of them we can put any amount into them, and must always calculate nicely where the process of enrichment is to stop. It is not less worthy of observation that sandy soils can be rendered capable of producing



almost every kind of crop save cereals and pulse, and even these can be secured where there is some basis of peat or loam or clay with the sand. The parks and gardens of Paris, Versailles, Haarlem, and Berlin are on deep sands that are blown away when left exposed for any length of time with no crop upon them to prevent direct contact of the wind with the soil; and not only do we see the finest of Potatoes and the most nutritious of herbage produced on these soils, but good Cauliflowers, Peas, Beans, Onions, fruits, and big trees full of sound timber. It would be inaccurate to say that any soil is beyond improvement, for the plough has found its way to the foot of Stonehenge, where only a hundred years ago cultivation was declared impossible, and on the granite of Dartmoor we may now see a fine grass sward where not long since the only vegetation comprised lichens and mosses. The farming and gardening at Prince Town owe their success in great part to the judicious use of sewage, and thus illustrate the immense importance of the subject before us.

Garden soils usually consist of loam of some kind, the consequence of long cultivation. Natural loams are the result of the decay and admixture of various earths, and they are mostly of a mellow texture, easily worked and highly productive. They are, as a rule, the best of all soils, and their goodness is in part due to the fact that they contain a little of everything, with no great predominance of any one particular earth. Cultivation also produces loam. On a clay land we find a top crust of clayey loam, and on a lime or chalk land a top crust of calcareous loam, where cultivation has been long pursued, for the staple is broken and manures are put on, and the roots of plants assist in disintegrating and decomposing, and thus there is accumulation of humus and a decomposition of the rock proceeding together, and a loam of some sort is the result. Hence the necessity of caution in respect of deep trenching, for if we bury the top soil and put in its place a crude material that has not before seen daylight, we may lose ten years in profitable cropping, because we must now begin to tame a savage soil that we have been at great pains to bring up to cover a stratum of a good material prepared for us by the combined operations of Nature and Art during, perhaps, several centuries. But deep and good garden soils may be safely trenched and freely knocked about, because not only does the process favour the deep rooting of the plants, but it favours also that disintegration which is one of the causes of fertility. Every pebble is capable of imparting to the soil a solution—infinitesimal perhaps, but not the less real—of silica, or lime, or potash, or phosphates, or perhaps of all these; but it must be exposed to light and air and moisture, to enable it to part with a portion of its substance, and thus it is that mechanical tillage is of the first importance in all agricultural and horticultural operations.

The principal inorganic or mineral constituents of plants are potash, soda, lime, sulphur, chlorine, silica, and phosphates of lime and iron. Clays and loams are generally rich in potash, sulphur, and phosphates, but deficient in soluble silica and lime. Limestone and chalk are usually rich in lime and phosphates, but deficient of humus, silica, sulphur, and alkalies. Sandy soils are rich in silica, and are rarely deficient of lime, but are generally poor in respect of phosphates and alkalies. Therefore, on a clay or loam, farmyard manure is invaluable, because it not only contains ingredients that all crops appreciate, but is helpful in breaking up the texture of the soil. The occasional application of lime also is of importance, and not seldom this produces an almost magical effect on an old garden soil that has been heavily cropped and liberally manured. Calcareous soils are greatly benefited by a free application to them of manure from the stable and cow-byre; but it would be (generally speaking) like carrying coals to Newcastle to dress these soils with lime. Clay may be put on with advantage, and nothing benefits a hot chalky soil more than a good dose of mud from ponds and ditches, which supplies at once humus, alumina, and silicates.

In the manuring of sandy soils great care is requisite, because of their absorbing power. In the bulb-growing districts of Holland manure from cow sheds is worth the enormous price of 1s. per barrow-load for digging into loose sand for a crop of Potatoes, to be followed by bulbs. This is an exceptional case, but it illustrates the subject usefully. As a rule sandy soils are deficient of phosphates and alkalies, and hence, instead of employing manure, which may often be more advantageously bestowed upon the loamy pieces and reserved for special purposes, it will be found that kainit (a rough form of potash) and superphosphate of lime will conjointly produce the best results, more especially in raising Potatoes, Onions, and Carrots, which are particularly well adapted for sandy soils. Probably one of the best fertilisers is genuine farmyard manure from stall-fed cattle, for it contains phosphates, alkalies, and silicates in available forms and suitable proportions. Artificial manure should be selected by analysis, and with a view both to correct the deficiencies of the soil, and to satisfy the requirements of the crops to be grown on it.

For the present purpose the principal garden crops may be grouped in two classes, in accordance with the predominance of certain of their mineral constituents. The figures show the average proportions of the several minerals per cent. in the ashes that are left after burning a sample.

In class 1 phosphates and potash predominate. This class includes the following:—The Pea, containing phosphates, thirty-six; potash, forty. The Bean, phosphates, thirty; potash, forty-four. The Potato (tubers only), phosphates, nineteen; potash, fifty-nine; soda, two; lime, two; sulphuric acid, six. The Parsnip, phosphates, eighteen; potash, thirty-six; lime, eleven; salt, five. The Carrot, phosphates, twelve; potash, thirty-six; soda, thirteen; sulphuric acid, six. The Jerusalem Artichoke, phosphates, sixteen; potash, sixty-five.

In class 2 sulphur, soda, and salt predominate. This class includes the following:—The Cabbage, phosphates, sixteen; potash, forty-eight; soda, four; lime, fifteen; sulphuric acid, eight. The Turnip, phosphates, thirteen; potash, thirty-nine; salt, ten; lime, ten; sulphuric acid, fourteen. The Beet, phosphates, fourteen; potash, forty-nine; soda, nine; salt, twenty; lime, six; sulphuric acid, five.

As a matter of course Lentils and other kinds of pulse agree more or less with Peas and Beans in the predominance of phosphates and potash. So, again, all the Brassicas, whether Kales, Cauliflower, or whatever else, agree nearly with the Cabbage in a predominance of lime and sulphur, ingredients which fully account for the offensive odour of these vegetables when in a state of decay. Fruits as a rule are highly charged with alkalies, and are rarely deficient in phosphates. Moreover, stone fruits require lime, for they have to make bones as well as flesh when they produce a crop. As regards the alkalies, plants appear capable of substituting soda for potash under some circumstances, but it would not be prudent for the cultivator to assume that the cheaper alkali might take the place of the more costly one as a mineral agent, for Nature is stern and constant in her ways, and it can hardly be supposed that a plant in which potash normally predominates can attain to perfection in a soil deficient in potash, however well supplied it may be with soda. The cheaper alkali in combination with salt may, however, be usually employed in aid of quick-growing green crops; and more or less with tap-roots and Brassicas. As regards Potatoes, it seems worthy of observation that they contain but a trace of silica, and yet they generally thrive on sand, and in many instances crops grown on sand are free from disease and of high quality, although the weight may not be great. The mechanical texture of the soil has much to do with this, and when that is aided by a supply of potash and phosphates, whether from farmyard manure or artificials, sandy soils become highly productive of Potatoes of the very finest quality. On the other hand, Potatoes also grow well on limestone and chalk, and yet there is but little lime in them. Here, again, mechanical texture explains the case in part, and it is further explained by the sufficiency of potash and phosphates, as also of magnesia, which enters in a special manner into the mineral constitution of this root.

Thus far we have not even mentioned nitrogen or its common form of carbonate of ammonia, nor have we mentioned carbon or its very familiar form of carbonic acid. These are important elements of plant growth, and they account for the efficacy of manures derived directly from the animal kingdom, as, for example, the droppings of animals, including guano, which consists, in part at least, of the droppings of sea birds. The nitrogen in these substances, however, is of an evanescent character, and rapidly flies away in the form of carbonate of ammonia. Hence, a heap of farmyard manure left for several years loses much of its value as manure, and guano should be kept in bulk as long as possible, and protected from the atmosphere or its ammonia will disappear. One difficulty experienced by chemists and others in preparing artificial manures is that of 'fixing' the needful ammonia, so that it may be kept from combining with the atmosphere, and at the same time be always in a state in which it can be appropriated by the plant. We cannot supply plants with nitrogen directly, but in all good manures there is a certain proportion of it in combination, and in many instances the per-centage of nitrogen is made the test of the value of a manure.

The importance of humus—the black earthy substance resulting from the decay of vegetation—in a soil is that it contains in an assimilable form many of the ingredients essential to plant life. Humus is also highly charged with carbonic acid, which decomposes the crude minerals in the soil and renders them available as plant food. When vegetable refuse is burned the nitrogen—one of the costliest manures—is dissipated and lost. But by burying the refuse the soil gets back a proportion of the organic nitrogen it surrendered, and something over in the way of soluble phosphatic and potassic salts; and as this organic nitrogen assumes the form of nitric acid it is assimilated by the growing plant to the great benefit of whatever crop may occupy the ground.

The practical conclusion is that in the treatment of the soil a skilful gardener will endeavour to promote its fertility by affording the natural influences of rain, frost, and sun full opportunity of liberating the constituents that are locked up in the staple, by restoring in the form of refuse as much as possible of what the soil has parted with in vegetation, and by the addition of such fertilising agents as are adapted to rectify the natural deficiencies of the soil. Thus instead of following a process of exhaustion, the resources of the garden may be annually augmented.

## ROYAL HORTICULTURAL SOCIETY.

DECEMBER 8TH.

COMPARATIVELY small table space sufficed to contain the exhibits at the meeting on Tuesday last, yet the display was interesting, especially of Orchids, which formed the greater part of the floral arrangement, though Chrysanthemums also added to the attractions, the new English and American seedlings receiving much attention.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair), and Messrs. J. Lee, R. D. Blackmore, Harrison Weir, G. W. Cummins, C. Ross, A. H. Pearson, W. Warren, T. J. Saltmarsh, A. Dean, W. Bates, W. Denning, G. Wythes, J. Hudson, H. Balderson, F. Q. Lane, J. Smith, G. Bunyard, J. Cheal, and P. C. M. Veitch, Dr. R. Hogg, and Rev. W. Wilks.

Some dwellers in the low-lying and damp districts of Mitcham, Merton, or Morden would have been surprised to see the display provided at this meeting. No less than fifty-two dishes of extremely fine



fruits were shown by G. Hatfield, Esq., Morden Hall, and the silver medal awarded was well merited, for such creditable samples are not the result of chance, but show that the gardener, Mr. Alderman, knows exactly what the trees require and how to provide it. In many parts of England more favourable than that at Morden Apple growing has been said to be impossible, or so unsatisfactory as to be not worth the trouble; yet in the collection under notice were included as fine fruits as we have ever seen shown at the Royal Horticultural Society's December meeting. Another interesting exhibit on the same occasion was from Mr. A. Verdon, the Greyhound Ho'el, Carshalton, and consisted of a dish of large Apples, said to have been gathered from a tree more than 100 years old, which still bears freely, and the fruit keeps well until March, the tree being of dwarf compact habit. It was suggested that if it were deemed worthy of a name it should be termed "The Greyhound Seedling," but while the Committee did not express any definite opinion on the matter it was thought to resemble Withington Fillbasket. In any case it seemed to be an Apple of some merit.

Three magnificent Pine Apples from J. A. Rolls, Esq., The Hendre, Monmouth (gardener, Mr. T. Coomber), gained as a well-deserved honour a silver Banksian medal. They were grandly developed specimens of Charlotte Rothschild, weighing 9 lbs. 14 ozs., and two Smooth Cayennes, weighing respectively 8 lbs. 4 ozs. and 9 lbs. 14 ozs. each. Very rarely are such Pine Apples seen now, either in gardens or at exhibitions.

A dish of the Croft Angry Apple from Miss Macknight, Malden Lodge, Wallington, excited some interest, and it may be remembered that the history of this Apple was given in the Journal recently (page 431). The specimens were small and greenish, and did not possess any marked characteristics (vote of thanks). R. G. Lakes, Esq., Trevarrick, St. Austell, Cornwall, exhibited numerous fruits of *Benthamia fragifera* (vote of thanks). Mr. C. Turner, Slough, sent four fruits of Apple A. F. Barron.

Mr. E. S. Wiles, The Gardens, Elgacote Park, showed some Onions. Mr. Gilman, Ingestrie Gardens, sent a new Melon. Mr. A. Colbourn, Woolhampton, Berks, sent a small yellow Apple from Germany; and P. Crowley, Esq., Croydon, showed two fine Citrons, which were well grown at Waddon, and a preserve prepared from this fruit. Messrs. W. Paul & Son, Waltham Cross, sent a collection of Pears (vote of thanks). Messrs. Paul & Son, Cheshunt, showed a handsome seedling Apple named Captain Sanders; and Mr. Whiteley, Hillingdon (manager, Mr. Godfrey), showed excellent fruit of Improved Hackwood Park Tomatoes (cultural commendation).

**FLORAL COMMITTEE.**—Present: W. Marshall, Esq. (in the chair), and Messrs. J. Laing, H. Herbst, B. Wynne, R. Dean, T. Baines, H. B. May, F. Ross, W. C. Leach, C. Jeffries, G. Phippen, C. E. Pearson, J. Walker, J. H. Bennett Poë, H. Turner, C. Noble, W. H. Williams, H. Cannell, G. Paul, A. W. Furze, and Rev. H. H. D'Ombrian.

Mr. Robert Owen, Maidenhead, had eight stands of *Chrysanthemum* blooms, representing numerous new English and American varieties, conspicuous amongst these being Robert Owen, an incurved Japanese, raised at Maidenhead from a cross between Sarah Owen and an American seedling. The one bloom shown was  $7\frac{1}{2}$  inches across and  $4\frac{1}{2}$  inches deep; the florets broad, tapering to an acute point, and strongly incurved, forming a deep massive bloom of a rich bronzy yellow tint, very distinct and striking. Other notable varieties were Lizzie Cartledge, rosy purple, a Japanese of American origin, rosy purple to white in the centre, the florets recurving neatly (award of merit). Mr. J. S. Fogg is a bright golden Japanese variety of American origin, very rich in colour (award of merit). Of the English raised Japanese seedlings the best were Peter Blair, bronze yellow; J. P. Kendall, deep crimson; Thomas Selwood, large yellow, incurving (award of merit); A. J. Booker, deep crimson, large Anemone; and Henry Perkins, a reddish bronze, incurved (award of merit); and Rivelyn, also an incurved, with broad florets, forming a compact bloom, reddish salmon, tipped amber (award of merit).

Mr. W. Wells, 8, High Street, Redhill, exhibited an interesting collection of *Chrysanthemums*, comprising many of special decorative value, incurved, Japanese, and singles. The white incurved Miss Maréchaux was well represented by numerous blooms (vote of thanks). Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, sent flowers of the white Japanese *Chrysanthemum* Duchess of Northumberland. Mr. Rochford, Turnford, Broxbourne, sent an *Adiantum* named Rochfordi, with large fronds and broad pinnules. Mr. C. Turner, Slough, had a dozen heads of *Poinsettia* major, with broad and brightly coloured bracts (vote of thanks). Mr. W. Iggulden, Marston Gardens, Frome, showed heads of a seedling *Poinsettia*, very bright in colour and early.

Messrs. Paul & Son, Cheshunt, showed flowers of the peculiar bright orange coloured *Leonotis leonurus* and *Canna* President Hardy, which has large flowers streaked with reddish orange. Messrs. Cannell and Sons, Swanley, had two new *Primulas*, Duke of Clarence and Prince George, the flowers large, and the colours rich crimson. Mr. W. Whiteley sent a group of *Chrysanthemum* flowers, Princess Teck and Mrs. Norman Davis being the varieties (bronze Banksian medal). Mr. T. S. Ware, Tottenham, contributed a group of *Hellebores*, with *Narcissus monophyllus* and *Iris Histro* in pans and pots (bronze Flora medal). A collection of *Hellebores* also came from Messrs. R. Veitch & Son, Exeter, and choice greenhouse hybrid *Rhododendrons*, with *Begonia* Winter Gem from Messrs. J. Veitch & Sons, Chelsea.

**ORCHID COMMITTEE.**—Present: H. J. Veitch, Esq. (in the chair), and Messrs. J. O'Brien, Ballantine, H. M. Pollett, J. Douglas, G. Hill, S. Courtauld, and T. B. Haywood.

One of the most beautiful groups of Orchids ever seen at a winter

meeting of this Society was that from Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking (Orchid grower, Mr. White), for which a silver Flora medal was awarded. It consisted of the numerous handsome hybrid *Calanthes* which have been raised at Burford Lodge, and arranged as they were with Ferns and *Oncidiums* at the back, the effect was extremely good. A collection of varieties of *Cypripedium Lecanum* was also included. M. S. E. Cooke, Esq., Kingston Vale, sent some cut Orchid flowers with a fine *Laelia alba*; and Messrs. Collins & Collins, Willesden, showed a group of *Cypripedium* insigne varieties (bronze Banksian medal).

Messrs. Pitcher & Manda, Hextable, Kent, had a remarkable group of *Cypripediums*, comprising nineteen varieties of *C. insigne* and twenty-seven other species. Many very beautiful forms were included. Messrs. H. Low & Co., Clapton, sent a plant of *Cypripedium Leeanaum* claptonense, a variety with a broad dorsal sepal and broad white margin. Mr. Prewett, Hammersmith, sent a plant of *Dendrobium superbiens* with a long raceme of dark crimson flowers. Messrs. Lewis & Co., Southgate, had a small group of Orchids, including a very handsome variety of *Cypripedium Curtisi*, remarkable for the dark colour of the lip.

Messrs. F. Sander & Co., St. Albans, contributed a large and varied group of Orchids, including many fine *Cypripediums*, of which *C. Leeanaum excellens* is remarkable for the nearly pure white dorsal sepal, and another variety *giganteum* secured an award of merit. Other notable plants were *Cypripedium Niobe*, *Cattleya dolosa*, *Cattleya Holfordi luteola*, *Cypripedium Pollettianum*, *Trichosma suavis*, and the yellow *Oncidium cheiroporum* (silver Flora medal).

C. Ingram, Esq., Godalming (gardener, Mr. T. W. Bond) exhibited several interesting Orchids, amongst them being the remarkable white *Dendrobium Macfarlanei* and hybrid *Cypripediums*, one named *Cynthia* being from C. Chantini and C. Harrisianum, a large effective flower in the way of the latter parent. C. W. Lea, Esq., Hallow, Park Field, Worcester (gardener, Mr. Catt), showed a raceme of *Odontoglossum coronarium* bearing about twenty-four of its polished reddish-brown flowers (cultural commendations).

#### CERTIFICATED PLANTS.

*Schomburghkia Sanderiana* (Baron Schröder).—The members of this genus are not very abundant in cultivation, though *S. tibicinus* is



FIG. 92.—SCHOMBURGHKIA SANDERIANA.

occasionally seen as a curiosity. The new species, of which a flower is represented in fig. 92, appears, however, likely to be a useful addition to the list of cultivated forms. The flower is about 3 inches in diameter, the sepals lanceolate, half an inch apart at the widest part,  $1\frac{1}{2}$  inch long, and pale rosy purple. The petals are broader and less tapering, the same length as the sepals, but deeper in colour. The lip is  $1\frac{1}{2}$  inch long, the centre lobe rounded, an inch across, and slightly cut at the margin, rich crimson-purple, like the lateral lobes, which are folded over the column, and the white blotch in the throat brings the colour into bold relief. In general appearance the lip is suggestive of a small *Sobralia*. The plant produces hollow pseudo-bulbs like its relative, the "Cow Horn Orchid," as *S. tibicinus* is sometimes termed, and it is supposed that these cavities are utilised for a similar purpose by the ants of the districts in tropical South America, where the plants are found. The flowers are produced in short racemes of four or five each; but it is said to be very free, and its colour will render it a favourite. The plant was introduced a few years ago by Messrs. Sander & Co., St. Albans (award of merit).

*Cypripedium Masereelianum* (Pitcher & Manda).—A beautiful hybrid in the style of *C. Leeanaum superbum*, the dorsal sepal very broad, pure white, and deeply spotted with purple; the petals undulated, dark; the lip neat and polished (award of merit).

*Zamia integrifolia* (Pitcher & Manda).—A compact and elegant



plant, with leaves 18 inches to 2 feet long, with short narrow dark green pinnae (first-class certificate).

*Cypripedium Lecanum giganteum* (F. Sander & Co.).—A variety remarkable for the great size of the flowers, the dorsal sepal  $2\frac{1}{2}$  inches across, with a broad white margin, dotted purple in the centre, and veined with green at the base. A handsome flower.

*Cymbidium pulcherrimum* (Sir Trevor Lawrence and F. Sander & Co.).—A species with long narrow graceful dark green leaves, and pendulous racemes of medium-sized flowers, the sepals and petals narrow, white, with a central line of dark crimson, and a small crimson-edged lip.

*Calanthe versicolor* (Sir Trevor Lawrence).—A charming hybrid with large flowers, white, with a reddish tint at the base of the lip; very free and graceful (award of merit).

*Chrysanthemum Mrs. H. Simpkins* (Mr. Simpkins, gardener to R. J. Measures, Esq., Camberwell).—A peculiar variety with small globular blooms, clear lemon yellow, the narrow florets curiously forked and cut. It was said to have been imported from Japan in 1889 (award of merit).

*Chrysanthemum E. G. Hill* (J. R. Pearson & Sons).—A large deep yellow or bronzy Japanese, with hard substantial florets, forming a full bloom (award of merit).

*Vriesia cardinalis* (C. Duval, Versailles).—A hybrid from *V. Krameri* and *V. brachystachys* with a broad triangular head, the bracts deep red with a wax-like shining surface. The flowers yellow. The leaves are plain green, and the habit is compact.

*Chrysanthemums Henry Perkins, Rivelyn, J. S. Fogg, T. Selwood, Lizzie Cartledge, and E. G. Hill* (R. Owen).—Awards of merit were granted for all these, which are described in the preceding report.



#### FRUIT FORCING.

**PEACHES AND NECTARINES.—Earliest Forced House.**—Trees started early in December, or at an early date in previous years, swell their buds promptly without much incitement from artificial heat, but those forced for the first time are slower in starting into flower. These must not be hurried, and with the buds swelling and advancing for flowering the atmosphere must not be kept nearly so close, as it is important that the blossom advance steadily and have time to develop a strong flower, perfect in all its parts. When the atmosphere is kept close and too moist the flowers are drawn and weak if the temperature be high, if low little progress is made, and the organs are stunted and effete. Admit a little air constantly at the upper part of the house, and above  $50^{\circ}$  it should be increased correspondingly with the temperature, but not allowing a decline below  $50^{\circ}$  in the daytime, sufficient artificial heat being employed for that purpose, and with sun heat an advance may be allowed to  $65^{\circ}$ , closing for the day before the temperature has receded  $55^{\circ}$ . A temperature of  $40^{\circ}$  to  $45^{\circ}$  is ample at night, or in mild weather  $50^{\circ}$ . When the flowers are advanced so that the anthers are showing cease syringing, but afford a moderate amount of air moisture by damping the borders, paths, and walls in the morning and early afternoon. Avoid a close moist stagnant atmosphere at any time, but especially at night with a high temperature. Examine the inside border, making sure that there is no deficiency of moisture. If necessary afford a thorough supply of tepid water or liquid manure. The surface soil is often deceptive, being kept moist by syringing, therefore supply enough to moisten the soil through to the drainage, for surface moistening does very little good. Trees often have weakly blossoms and fail to set in consequence of moisture being given to the tops of the trees instead of to their roots. If there is a superabundance of flower buds remove those on the under side of the trellis by drawing the hand the reverse way of the growth. This will materially assist the swelling of the remaining buds. If there be any trace of aphides fumigate the house on two or three consecutive evenings before the flowers are much advanced in colour, always before the petals unfold, and the atmosphere must be dry, or the moisture will be condensed on the cooler surfaces of the flowers, and they will be discoloured and injured by the tobacco smoke.

**Second Forced House.**—If the trees are very early varieties, as Alexander, Waterloo, and Early Rivers, with Advance Nectarine, fruit may be had in late April or early May by starting at the new year, but if the trees are such as Hale's Early, Stirling Castle, or Royal George Peaches, with Lord Napier Nectarine, the fruit will not ripen until May is well advanced or early in June. This must be taken into consideration by growers. In either case the house must be closed at once, fire heat only being used to exclude frost, the trees being sprinkled occasionally, or on fine days in the morning and afternoon, allowing time for them to become fairly dry before night. Keeping the trees constantly dripping with moisture, especially at night, enfeebles the blossoms, and is provocative of wood bud rather than blossom bud development. Do not allow the temperature to exceed  $50^{\circ}$  in the daytime without full ventilation. Supply water or liquid manure to inside borders, and protect outside with a little litter or dry leaves. Spare lights are an advantage in throwing off rain and snow.

**Succession Houses.**—Where the roof lights are movable it is much the best plan to remove them, and expose the trees to the elements for the winter, the wood being thoroughly ripe. This is inimical to many insects, and the trees are insured rest and thorough moistening of the border. Even the latest and unheated houses are best treated in that way, often having the effect of causing trees to retain their buds which cast them under fixed roofs, and the blossoms are generally finer than on trees that are kept constantly evaporating from the young wood through the time they are at rest under fixed roofs, or when they are subjected to alternating rests and excitements where plants are grown in the house. The fogs and damp of winter, with the drenching rains and snow, suit Peaches in well drained soil, the trees being invigorated and the soil enriched. If the houses have fixed roof lights, ventilate to the fullest extent in all but very severe weather. Proceed with the pruning, bringing matters in respect of cleansing the house and trees to as speedy a conclusion as possible.

**PINES.—Young Stock.**—Growing plants are liable to become drawn and weakly at this time of year by keeping them too close, moist, and warm, the damage often being irreparable, and not unfrequently arises from improper structures being employed. Well ventilated pits or small houses properly heated are most suitable for young Pine plants, as they can be kept near to the glass, and should be given plenty of room. Maintain a night temperature of  $55^{\circ}$  to  $60^{\circ}$ , which, with  $65^{\circ}$  in the daytime, will keep all young stock gently growing, admitting a little air at the top of the house at  $65^{\circ}$ , leaving it on all day, but do not let the temperature fall below that point, and when the temperature advances to  $75^{\circ}$  from sun heat a free circulation of air must be allowed. The bottom heat may be kept steady at  $80^{\circ}$ . Avoid a damp atmosphere, an occasional damping of available surfaces will suffice. Water only when the plants become dry, then afford a thorough supply of weak liquid manure.

**Plants to Ripen Fruit in May and June.**—This is a very important time to have Pine Apples ripe, as fresh ripe fruit is not over-plentiful, and they are a great ornament at dessert, far transcending imported fruit in appearance, and are juicier and more richly flavoured, besides having a much more pleasant aroma. Where a supply is required at the time named, and plants are not showing fruit, it will be desirable to select from those started in March last, which have completed growth, and are now in a state of rest, such as show a stout base—the best indication of starting into fruit when subjected to a higher temperature both at the roots and in the atmosphere. The plants are best placed in a structure to themselves. Where this cannot be afforded they must have a light position in the house where the fruiterers are swelling. Maintain a night temperature of  $65^{\circ}$  in the fruiting department,  $5^{\circ}$  less in the morning of cold nights, and  $70^{\circ}$  to  $75^{\circ}$  by day, but in very severe weather a few degrees lower is preferable to extra sharp firing.

**CUCUMBERS.**—The weather has been wet and cold, and the growth suffers more than when there have been some bright intervals, light being very important in all forcing operations, especially in winter, therefore the glass should be kept as clean as possible both inside and out. Use warm sweet soil and not very wet for earthing over the roots as they show at the sides of the ridges or hillocks. A few sweetened horse droppings spread on the surface will attract the roots and afford nutriment to them when watered. This is preferable to liquid manure, unless the plants are growing in limited borders, boxes, or pots, then copious supplies will be necessary. Always apply it weak and tepid, and not too often. Sufficient moisture will be secured by damping available surfaces other than the plants in the morning and in the afternoon of fine days, but avoid excessive moisture, and do not supply water to the roots till the soil is becoming dry, then afford a soaking. Look over the plants at least once a week for stopping, removing bad leaves, thinning as required, but stopping and thinning will not be much needed, yet it must not be neglected, as crowding is one of the greatest of evils in the growth of winter Cucumbers. Overcropping is a still greater malpractice, and allowing the fruits to needlessly hang after they attain a size fit for cutting serves only to weaken the plants and prevent other and younger fruit swelling; but when large enough, the fruits keeping several days if the heels are inserted in saucers of water in a cool place but safe from frost. Ill-shaped and superfluous fruit should be removed as they appear, and tendrils and staminate blossoms answer no useful purpose, therefore remove them, but sometimes it is necessary to fertilise the pistillate flowers to make sure of the fruits swelling, and, though this may cause a "knobby" fruit, it is better than none at all. Plants from old seed and those enfeebled by attacks of eelworms sometimes fail to swell unfertilised fruits, but fertilisation is seldom necessary for healthy plants raised from fresh seeds.

Mildew is sometimes troublesome. It may be combated by dusting the affected parts with flowers of sulphur, and the atmosphere should be kept drier. A light brushing over the pipes with a cream of sulphur and skim milk is useful against mildew, also red spider. This pest appears after a spell of sharp firing, and spreads with amazing rapidity. Sponging the first discoloured patches on the leaves with a solution of softsoap, 2 ozs. to a gallon of water, is the surest, and, all things considered, the safest remedy. Thrips are best destroyed by similar means, or fumigation with tobacco. Tobacco powder dusted on green and black aphides destroys them, and fumigation on two or three consecutive evenings moderately eradicates these pests. The foliage at this time of year is tender, therefore care must be exercised in fumigation, not giving an overdose.



## THE KITCHEN GARDEN.

**PREPARING FOR FROSTS.**—A change from mild wet weather to sharp frosts and colder days and nights may take place any time now, and unless a few precautions are taken much harm may be done. Globe Artichokes are not perfectly hardy, and will not survive extra severe frosts unless the clumps are protected by either strawy litter, bracken or ashes. Whichever material is used, it ought to be well mounded up to the plants, not sufficiently so to smother them, but about half the length of the strongest suckers may be buried. Thus treated, the severest frosts will not permanently cripple Globe Artichokes, and a row or breadth of plants usually pay well for being taken good care of.

Jerusalem Artichokes are rarely if ever injured by frosts, but if the tubers are wanted regularly or in all weathers, a portion of the crop ought either to be lifted and stored in sand or fine soil, or a breadth of ground should be covered with a good thickness of strawy litter, as this admits of the Artichokes being dug during the prevalence of severe frost.

Parsnips keep best where grown, and if the ground about these is also heavily mulched there will be no difficulty in getting at the roots any time. Leeks are perfectly hardy, but cannot very well be dug when the ground is badly frosted. It is advisable therefore to either mulch a portion of the bed, or else to lift and lay in closely a few dozen plants. Main crop Carrots ought to have been lifted and stored some time since, but any sown in June or July may well remain where they are, young Carrots being much the most tender and sweet when used direct from the ground; still later Carrots will continue to grow whenever the weather is mild, and that is another good reason for leaving them where they now are. They are seldom injured by frost, but it is advisable to have a heap of strawy litter in readiness for covering a portion at least of the beds whenever severe frosts are imminent, and the roots can then be drawn whenever required.

The tops of Beet are harder than the roots, and it is possible for the former to be uninjured by frost, and yet the roots be spoilt for eating. Lifting and storing is the best way out of the difficulty and ought to have been attended to some time since. Turnips are rather scarce this season, the late sowings failing in many places, while those early raised are somewhat coarse. Those not half grown may well be left to take their chance, and, unless a severe winter be experienced, will give acceptable tops next spring. Orange Jelly, White Stone, Red Globe and Chirk Castle Black Stone are all fairly hardy, but no risks ought to be run where the crops are small. A portion or all of the largest roots may well be pulled and trimmed, then placed in a heap in a cool, dry place and covered with straw heavily faced over with soil. Thus treated they will keep well, especially if turned once or twice during the winter and cleared of all young shoots.

Turnip-rooted Celery is now quite large enough for storing, and will keep best if treated as advised in the case of Turnips, or, if preferred, the roots can be heavily covered with leaves or litter faced with soil. An ordinarily severe frost will not injure either Celery or Celeriac, and it is the extremes that have to be prepared for. The weather for some time past has been all against moulding up Celery, but unless this important work is persevered with the chances are much injury may be done before midwinter by a severe frost. If only partially earthed, frost will seriously damage the exposed stalks, the decay consequently spreading downwards and to the hearts very rapidly. Heavily earthing so as to leave only the tips of the leaves protruding is the best protection against frost, and unless this is done the plan of covering with boards nailed together in the form of a V and inverted over the rows in frosty weather, or the more objectionable practice of covering with strawy litter ought to be resorted to. When moulding up finish off neatly and smoothly so as to throw off as much water as possible, and see that there is a good outlet for all that accumulates between the ridges.

Parsley has grown very strongly in the autumn, and will cut up badly if we have severe frosts during the winter. It is not yet too late to lift a considerable number of roots, removing the larger outside leaves from them prior to packing the plants closely in deep pots or boxes filled with rich loamy soil. If placed in a warm house of some kind, newly started Peach houses or vineries answering well, top growth will soon be fairly strong, and a difficulty probably avoided. Also cover up as much as possible with spare frames and handlights, abundance of Parsley being a pleasurable surprise to the cook.

## PLANT HOUSES.

**Chrysanthemums.**—Cuttings of early flowering varieties will be ready for insertion. When these are grown solely for purposes of decoration boxes 5 inches deep are filled with light sandy soil, after placing a layer of leaf mould at the base, the cuttings being inserted moderately close together. If well watered after insertion and then covered with squares of glass very few if any will fail to root. The boxes should be stood in any cool house. Plants that are raised under cool treatment grow sturdily from the first. As soon as the cuttings are rooted the required number may be placed singly in small pots, or two or three may be placed together in 3-inch pots. This is only necessary where very large bushes are needed. Those required to produce exhibition blooms may be inserted as far as cuttings can be obtained. These should be placed singly in small pots and stood in handlights in a cool house. There are various ways of raising these plants, and all may be practised with success. Stools that have not yet produced cuttings may be placed by themselves where they can be kept a little closer until they show signs of pushing. Be careful not to give too much water to the old stools, especially those that have not displayed signs of

growth. Plants for flowering at Christmas require abundance of air, as the present mild weather will bring them forward rapidly. Fogs and damp are the greatest enemies to these; to avoid them becoming spotted ventilate early in the day after the house has been closed at night.

**Hydrangeas.**—Tops that were rooted early and developed flower buds may, if well ripened and the foliage has dropped off, be potted as opportunity offers. For these 5-inch pots are the most suitable. One good crock should be placed at the base, and the compost may consist of old Cucumber and Melon soil, if loam has been the principal ingredient for them. A little soot may be mixed with the soil. In potting, the soil may be pressed moderately firm, and the flower bud left just above the surface. After potting, the plants may be returned to a cold frame or any cool structure where they can be kept in an intermediate state of moisture without having recourse to the water pot. Plants that were rooted later may be kept on a shelf in the greenhouse or any cool house where they will be safe from frost until they have thoroughly matured their foliage. This is necessary if they are to do well; do not allow them to become dry.

**Hydrangea paniculata.**—Although this variety will not bear forcing it is invaluable in pots for purposes of decoration. Plants that have been well established and made good growth outside should be lifted and placed in 5 to 7-inch pots, according to their size. These may be pruned close back and stood or plunged in cold frames. When the plants have not been established in pots they should be allowed to break into growth in the frames and then given greenhouse treatment.

**Zonal Pelargoniums.**—Plants that have flowered may be stood in a vinery or Peach house and kept perfectly dry, so that they can be cut back in a few weeks and started again into growth.

**Freesias.**—Those that have made 1 or 2 inches of growth should be placed on a shelf near to the glass in the greenhouse, to prevent their drawing up weakly. These plants are often ruined by an attempt to force them into flower. Later supplies may be potted and stood in the greenhouse, where they can be covered with a little cocoa-nut fibre refuse until they have started into growth.

**Gladioli The Bride.**—Keep those on a shelf in the greenhouse that were potted early and have made some inches of growth. These plants do remarkably well under greenhouse treatment. A good number for late use may be potted at once, 5 and 6-inch pots being the most suitable size, placing the bulbs thickly in the pots.

**Lilium lancifolium.**—Where these have been standing outside, and the old flower stems are dead, they may be cut away and the plants placed under cover until the soil is in an intermediate state of moisture. They should then be turned out and repotted. It is often necessary to break up the balls and sort them, for they increase rapidly under pot culture. If left too long before potting is commenced new roots are formed, and then it cannot be done properly without considerable injury. In potting use the soil in an intermediate state of moisture, place them in a frame, and cover the surface with ashes or cocoa-nut fibre refuse, which will prevent evaporation until they commence rooting and growing.

**Fuchsias.**—A few plants may be pruned and started into growth in a vinery or Peach house that has been closed for starting. If the soil is very dry a little water may be given, and then if well syringed they will soon start into growth.

**Primula obconica.**—Young plants in 3-inch pots may if required for spring flowering be placed into 5-inch pots. They will do well on a shelf in any position that is cool, and where they are safe from frost.



## APIARIAN NOTES.

## THE WEATHER.

DURING the past week the temperature varied from 52° to 19°, calm and fine, to stormy. Several of the hives took advantage of the mildness and aired themselves; most of them, however, remained quiet. So far, neither death nor disease manifest their presence.

## PERFORATED ZINC FLOORS.

Amongst my correspondence I have a letter from "F. McC., Annan," which is interesting, and I give part of what he says to your readers. He seems alive to the risk bees run of dying when they leave the cluster of bees and descend to the floor. This is also our experience; hence the reason we advocate the combs to be within the reach of the bees when upon the floor; the space between the two should be the distance bees elect to leave. Of the floors he says, "After experience of perforated zinc floors I am quite satisfied that they are good. They are perfectly clean in spring, and all the dirt is below, having fallen into peat moss which is below. I find the peat moss a favourite place for moths and their



eggs, but I change this frequently, and always subject the material before using it to as great a heat as it will stand without burning; it destroys the moth eggs and other insects, but it is strange how soon the moths find it out." The above is the testimony of a gentleman who is reliable, and who tests things before he recommends them to others. He is in short the friend of the cottager and of the industrious, hence the greater the value of his testimony, and of the effectual way to destroy insect pests.

#### GOVERNMENT AID.

There has been for a considerable time past much clamour to influence County Councils to allow portions of the grants to bee-keeping that has been allocated for technical instructions on rural matters. I am informed this has already to some extent been granted. Public money should be disbursed by responsible individuals for the benefit of the public, and in a judicious and economical manner. Bee-keeping can be carried on successfully by comparatively few, and it never will be as great a national industry, as bee-keeping is associated with horticulture, and cannot be well separated from it. So that whatever grants are procurable let them go for horticultural and agricultural purposes, of which bee-keeping is but a part. It is to be hoped that County Councils will think the matter over as seriously as they possibly can before they grant any aid to bee-keeping separated from horticulture and agriculture.

#### AN EXPLANATION AND CORRECTION.

I, in common with many others, were well pleased with your admission of a supposed fault, as we were equally so with the correction made by you at page 485, as decidedly called for by the circumstances of the case.—A LANARKSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

J. Carter & Co., 237 and 238, Holborn.—*List of New Chrysanthemums for 1892.*

Norman Davis, Lilford Road Nurseries, Camberwell, S.E.—*Catalogue of New and Old Chrysanthemums.*

Dicksons & Co., 1, Waterloo Place, Edinburgh.—*Catalogue of Forest Trees.*



\*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Cutting Down Something** (*A Subscriber*).—If you will be so good as to make clear what you desire to cut down your question shall be answered. No one here can decipher the word on your postcard, and printers can decipher almost anything.

**Pipe Sockets Splitting** (*J. R.*).—You will no doubt find the cause of the mishap indicated in a short article on page 493 from a correspondent who has had great experience on the subject on which he writes.

**Chrysanthemum Mrs. Norman Davis** (*H. Prosser*).—Your blooms arrived just as we were preparing for press. The florets are distinctly bristled, like many we have seen of Charles Gibson. Those additions, in our opinion, deteriorate from the merits of incurred blooms.

**Seed Pans** (*W. P. Dennis*).—We have no doubt your seed pan is very good, but it seems to us that if the water trough were glazed, as you suggest, its utility as a slug barrier would be destroyed. Manufacturers who wish to increase the sale of meritorious goods keep them before the public in the usual business way that has proved so profitable to many.

**Chrysanthemum Etoile de Lyon** (*W. D.*).—We have seen scores of blooms nearly white like those you have sent, the consequence mainly of variation in the character of the buds; but we believe there is one, if not more, white sports of the variety established. Yours may either be a natural sport or artificial production, and next year's experience will determine the point.

**Emigrating** (*H. J.*).—We would not advise you to go to either America or Australia to seek work in gardens if you have no friends to go to, or without testimonials from well known nurserymen and horticulturists, recommending you to persons who would be likely to assist you in your object. In reply to your question for an address that will enable you to obtain information, the most reliable we can give is that of the Secretary Emigrants' Information Office, 31, Broadway, Westminster.

**Forcing House** (*W. P.*).—The illustration cut from Mr. W. Cooper's catalogue represents a very useful house indeed, and numbers of gardeners would be glad to possess one. It is not ornate nor costly in character, but essentially serviceable, and one of many such houses in which are raised and grown thousands of plants of various kinds and

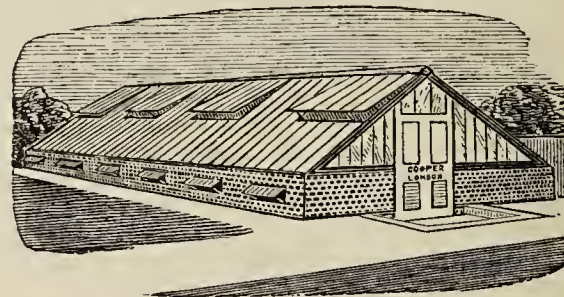


FIG. 93.—FORCING HOUSE.

sizes sold in Covent Garden. Such structures are moreover just as suitable for growing Cucumbers, Melons, and Tomatoes as ornamental plants; indeed, not a few persons grow such crops as those in the summer, and different kinds of plants in winter and spring.

**Anemone blanda from Seed** (*L. R.*).—The Anemone you name can be raised from seed, and if the seeds you had were properly matured they should, if the soil and situation were suitable, have germinated before this. If sown too deeply, or in a dry exposed place, they may be lost, but seeds of the Anemone family vary greatly in the time required for germination, and it is possible that some young plants will appear in the spring. If you have any seed now sow some in pans of light soil, and place them in a cool moist frame, or any position where they can be protected from frost and rain. Flowers would probably be produced the following season.

**Hæmanthus, Pancratium, and Eurycles** (*J. T.*).—Hæmanthus Katherinæ belongs to the same section of the genus as *H. multiflorus*, and is easily cultivated. It requires a stove temperature, and no doubt like others of its relatives would flower at different periods, which could be regulated by starting the bulbs at intervals. If it is potted now and placed in heat growth would shortly commence, and flowers might be expected in the spring months. The most suitable compost consists of peat and turfy sandy loam in equal parts, with a small proportion leaf soil and a little sand added if the loam be heavy. Good drainage will be needed, and plenty of water during growth, gradually reducing the supply afterwards, and placing them in cooler quarters for the resting period. *Pancratium Sickenbergi* is a native of the desert region of Egypt and Arabia, and Mr. Baker describes it as possessing "the leaves of *Pancratium tortuosum* with the flowers of *P. maritimum*." Try the effects of a good season of rest, possibly this may assist the production of flowers. The *Eurycles* should be treated similarly to the *Pancratiums*—namely, grown in a stove temperature, employing good loam as the basis of the compost, supplying water freely during growth and flowering, and a little assistance with liquid manure may be beneficial.

**Aralia Veitchi** (*T. S.*).—The stock upon which *Aralia Veitchi* is grafted is *A. reticulata*, which is freely increased from cuttings. Plants that have grown tall should be cut up into lengths of about 2 inches, and inserted singly in small pots. January is a good time to cut up the stems, which soon form roots in sandy soil if they can be placed in a close propagating frame, where they can enjoy moderately brisk bottom heat. We have inserted pieces of *Aralia reticulata* rather longer, and when well rooted have applied the grafts of *A. Veitchi*. But we prefer to allow the stocks to be well established, and have grown some few inches in length. These are then cut nearly close to the base, and the scions of *Aralia Veitchi* placed on to them. Side shoots from a large plant from which the top has been removed soon become united to the moderately soft wood of the young stocks. By this means few grafts can be applied at once, and therefore cut up the stem of *A. Veitchi* into lengths of nearly 2 inches, and join them to stocks with firmer wood. Side grafting is the best to adopt, and they can be worked as near the soil as possible, so that after the stock and scion have united and the plants are placed in 5-inch pots the union will be practically buried in the soil, so that the young plant of *A. Veitchi* will be furnished from the base. The scions should be tied on in the usual way, and then kept practically air-tight by the aid of grafting wax. As the stocks are grafted they should be returned to the propagating frame, and kept close shaded and moist until they are united and have commenced growth, when they must be gradually hardened.



**Malmaison Carnations Diseased (T. S.).**—The "grass" is badly infested with a fungus, probably *Puccinia Arenariae*, which forms small brown masses, often in irregularly concentric groups on the leaves of many Caryophyllaceous plants. The masses on Malmaison Carnation "grass" are larger than on Pinks, and are more disastrous to cultivated than wild plants, for this fungus infests a number of wild as well as garden plants of the class named; and, unless the fungus is very abundant the host plant is not materially damaged or hindered in its growth. The spores are pale yellowish brown and slender. They are abundant, and the mycelium of the fungus is unusually vigorous in the "grass" you sent. There is no remedy for these internal parasites, except by the removal and destruction of the infested growths; but the disease can be prevented by early treatment with copper, and bad as your plants are we advise your spraying them with precipitated carbonate of copper in suspension at intervals of seven days twice, and afterwards at fortnightly or three weeks' intervals. Use 1 oz. to 12½ gallons of water, merely covering the "grass" each time with a mist-like but even water film on both surfaces.

**Young Apple Trees Cankered (J. R.).**—There is always danger of canker intervening in transplanting trees from level ground, and substantial soil to light soil, and a position facing south and rather exposed, as they are not only checked by the removal but by the different climatic conditions, and the bark becomes hardened, the trees showing dark patches in places, and dying forms wounds, which may or may not be infested with the fungus—*Nectria ditissima*. If mere wounds they will soon heal naturally, but if infested with fungus they will enlarge, and ultimately destroy the branch attacked. Evidently the manure you have applied has no effect on the canker, therefore we assume the trees are infested with fungus. In that case the only remedy is to cut out the affected parts and burn them, dressing the wounds with grafting wax or grafting clay if any cankered patches are removed on the stem or large branches with a knife. This will certainly arrest the spread of the disease, and it will be to a great extent prevented by promoting growth in the trees, mulching the roots with partially decayed stable litter, and top-dressing with phosphatic and potassic manures. Canker is caused by various conditions of soil, climate, and management; but there cannot be any canker resulting of fungus without wounds and the presence of spores. We therefore advise your cutting off the heads of the old trees badly affected with canker and burn the tops, grafting the trees with free-growing sorts such as Lord Grosvenor and Bramley's Seedling, at the proper time. We should be glad if you would name the varieties that are most infested with canker, also those most free and longer resisting its attacks in your light soil.

**Names of Fruits.**—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (J. S.).—The Pear was a poor specimen, but it is probably Nouveau Poiteau. (H. E. Arnatt).—Broompark.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (A. B.).—As you may see clearly stated above, we do not undertake to name varieties of florists' flowers. Possibly you may be right in your surmise. Why not send it to the person from whom you obtained your plants?

#### COVENT GARDEN MARKET.—DECEMBER 9TH.

HEAVY consignments of Nova Scotia and Canada Apples to hand, considerably depressing the English market. Trade generally quiet.

##### FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, ½-sieve ..	1	0	4	0	Grapes, per lb...	0	6	2	6
Apples, Canada and Nova Scotia, per barrel ..	12	0	18	0	Lemons, case ..	15	0	20	0
Cobs, Kent, per 100 lbs. ..	30	0	35	0	Oranges, per 100 ..	4	0	9	0
					St. Michael Pines, each..	3	0	6	0

##### VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	4	0	6	Mustard & Cress, punnet	0	2	0	0
Beet, Red, dozen ..	1	0	0	0	Onions, bunch ..	0	3	0	5
Carrots, bunch ..	0	4	0	0	Parsley, dozen bunches	2	0	3	0
Cauliflowers, dozen..	2	0	3	0	Parsnips, dozen ..	1	0	0	0
Celery, bundle ..	1	0	1	8	Potatoes, per cwt. ..	8	0	4	0
Coleworts, doz. bunches	2	0	4	0	Salsafy, bundle ..	1	0	1	6
Cucumbers, doz. ..	1	0	2	6	Scorzouera, bundle ..	1	6	0	0
Endive, dozen ..	1	3	1	6	Seakale, per basket..	1	6	1	9
Herbs, bunch ..	0	3	0	0	Shallots, per lb. ..	0	3	0	0
Leeks, bunch ..	0	2	0	0	Spinach, bushel ..	2	0	0	0
Lettuce, score ..	0	9	1	0	Tomatoes, per lb. ..	0	4	1	0
Mushrooms, punnet ..	1	6	2	0	Turnips, bunch ..	0	0	0	4

#### AVERAGE WHOLESALE PRICES.—CUT FLOWERS

Orchid Blooms rather scarce in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Aran Lilies, 12 blooms ..	4	0	6	0	Mignonette, 12 bunches..	1	6	3	0
Azalea, dozen sprays ..	1	0	1	6	Mimosa or Acacia				
Bonvardias, bunch ..	0	6	1	0	(French), per bunch ..	1	0	1	3
Carnations, 12 blooms ..	1	0	2	0	Myosotis, dozen bunches	3	0	6	0
Christmas Roses, doz. blms.	0	9	1	6	Narciss (French) doz. bchs.	3	0	6	0
Chrysanthemums, dozen					Pelargoniums, 12 bunches	6	0	12	0
bunches ..	4	0	12	0	" scarlet, 12 bchs	4	0	6	0
Chrysanthemums, dozen					Primula (double) 12 sprays	0	6	1	0
blooms ..	0	9	3	0	Pyrethrum, doz. bunches	2	0	4	0
Cyclamen, dozen blooms	3	0	6	0	Roses (indoor), dozen ..	1	6	3	0
Encharis, dozen ..	4	0	6	0	" Red (English) per				
Gardenias, per doz. ..	3	0	6	0	dozen blooms ..	2	0	4	0
Hyacinths (Roman) doz.					" Tea, white, dozen..	1	0	3	0
sprays ..	0	6	1	0	" Yellow, dozen ..	3	0	6	0
Lapageria, 12 blooms ..	1	0	3	0	Tuberose, 12 blooms ..	0	4	0	6
Lilium longiflorum, 12					White Lilac (French) per				
blooms ..	4	0	8	0	bunch ..	6	0	7	6
Lilium (var.) doz. blooms	3	0	6	0	Violet Parme, French beh.	3	6	4	0
Marguerites, 12 bunches	3	0	4	0	" Czar, ..	2	0	2	6
Maidenhair Fern, dozen					" small bnchs	1	6	2	0
bunches ..	4	0	9	0	" English, doz. bnchs	1	0	1	6

#### PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Aralia Sieboldi, dozen ..	6	0	12	0	Ferns, in variety, dozen..	4	0	18	0
Arbor Vitæ (golden) doz.	6	0	12	0	Ficus elastica, each..	1	6	7	0
Chrysanthemums, per doz.	4	0	9	0	Foliage plants, var., each	2	0	10	0
" large, doz. 12	0	24	0		Heliotrope, per doz. ..	4	0	6	0
Cyclamen, per dozen ..	12	0	18	0	Marguerite Daisy, dozen	8	0	12	0
Dracæna terminalis, doz.	24	0	42	0	Mignonette, per dozen ..	6	0	8	0
" viridis, dozen ..	12	0	24	0	Myrtles, dozen ..	6	0	12	0
Erica gracilis, per doz. ..	9	0	12	0	Palms, in var., each..	2	6	21	0
" hyemalis, doz. ..	12	0	18	0	Pelargoniums, scarlet, doz	4	0	6	0
Enonymus, var., dozen ..	6	0	18	0	Solanum, per dozen ..	9	0	12	0
Evergreens, in var dozen	6	0	24	0					



#### WINTER KEEPING.

PASTURES were hoary with frost; trees, too, were equally hoary, for the fog was dense and the air keen and biting as we were driving to Melton Mowbray in the early morn of a real November day. As we passed through Great Dalby we saw the title of this paper in large type on a placard announcing the sale by auction of the right to graze cattle on certain pastures during winter. Nearer Melton we saw cattle of all sizes, from sturdy stirks downwards to small calves, out on the frozen pastures, whence they have to obtain bare subsistence during winter. Some cake may be given them daily; but foddering with hay will hardly begin while "winter keeping" continues so abundant. As the "fog" becomes scarce some hay will be taken out on the pastures once daily, and the hungry beasts will eagerly consume every scrap of it.

Upon the face of it such treatment may wear the guise of true economy; we invite those who follow the practice to consider if it is so in reality. "Fog," we may inform the uninitiated, is a comprehensive term, embracing all long herbage found on pastures now; much of it is yellow or brown with age, a sure indication of the loss of nutriment. Its consumption is a certainty, as the cattle are driven to eat it by hunger. The pasture is cleared and is bare enough of herbage before spring. Bare, too, are the ribs of the half-starved cattle; all are in low condition, many of them being so weak that they succumb to any ailments. Losses mount up, especially among young stock, yet it does not appear to occur to the graziers to attempt any new departure in management. Cattle so obviously suffer severely during winter from a low dietary and exposure to wet and cold, that it cannot be difficult to see how very possible and desirable a better system of management is.

Blind faith in custom brings to auction sales of winter keeping plenty of eager competitors, the time of outlying pasture now for store beasts being as common in the midlands as is that of summer grazing in southern counties. Marsh flock masters withdraw the sheep from their native fat pastures and send them to upland farms during winter, because they know the sheep would suffer—would not thrive, in fact, on the low damp marshes. They evidently are aware that animals do suffer from exposure to cold and wet, and instead of looking on with the supine indifference of a midland grazier, they bestir themselves, and the sheep are all "over the



hills and far away" long before the soft, alluvial, marsh land becomes sodden by the heavy downpour of an average autumn. No doubt the comparison of good and bad practice, of wisdom and folly, is odious, but it is necessary. Repeatedly have we reminded our readers of the low temperature and heavy rain of October, in order to induce them to be ready with shelter for cows and store cattle, for all of them and not for a favoured few.

Shelter, and how to obtain enough of it, is the second, not the first difficulty in the way of reform. The primary stumblingblock, the chief hindrance to a change for the better, is the obstinate adherence to custom, notwithstanding the heavy loss involved. Why, the value of the beasts lost from disease resultant from exposure would go very far to supply ample means of shelter. We are aware that very many farms are deficient in cattle-sheds or hovels, both in corn and grazing districts. A wise landlord will not hesitate to set right so great a wrong, affecting himself as well as his tenants. Enable a tenant to help himself by thus affording him the means of doing so, and thus indirectly prevent the losses which give such colour and force to his plea for rent reductions.

Bad enough was it for Essex landlords when so many farms were thrown upon their hands, and when the men of Ayrshire came to negotiate for those farms a low rent was a certainty; yet even that could not be obtained without an undertaking to considerably enlarge the homesteads. The shrewd Scotchmen saw the rock on which the old tillers of the soil had split. Not for them the corn-growing that had led to bankruptcy; they intended dairy farming and nothing else; they also intended having suitable yards and lodges to winter their cows in; they have got them. In this instance it was not the setting right of a great wrong. The former tenants had not the stock to require more shelter, they were content, having no cause of complaint till beaten by hard times. Nor has the midland farmer always a just plea for the hovels of which he has such urgent need. Many an instance is known to us where a man has begun with a small holding and sufficient buildings, more land has been hired—often from another landlord—the herd of stock is enlarged till there is no possibility of housing it in winter. The cattle have to rough it out in the open, under the very trying conditions of winter keeping.

#### WORK ON THE HOME FARM.

Ewes timed for lambing early in the new year must now be kept off heavy arable land either in a park or meadow, where they run no risk of worrying by stray dogs, or any sudden fright or disturbance. Let shepherds be alert always to protect their charge, especially if there is a pack of hounds in the neighbourhood. So many people from a distance ride to hounds now that reckless riding among sheep is by no means uncommon. The shepherd should, of course, be there to prevent it. As a general rule he ought not to be long absent from his flock at any time now. Twice recently have we found ewes cast—that is to say, they had rolled upon their backs and could not get up. We were in time to save the lives of both, but one could hardly stand when set upon its legs, so exhausted was it from its prolonged struggles.

The ewes have plenty of grass, and a little trough food consisting of chopped Barley straw and a pint of crushed Oats per head daily. This tends to keep them in sound condition, and corrects any undue tendency to scour. We want strong healthy lambs, and to obtain them must have strong, healthy, well-fed ewes. Very little fear is there of abortion among ewes so cared for and fed with heat-giving, nourishing food. Compare such treatment with that of ewes out in folds with watery Turnips for food, and mud so deep that it is difficult for the sheep to walk at all. Every time a leg is withdrawn from the mud the effort is so great as to put a severe strain upon the body. Surely it is no wonder that abortion and foot-rot are rampant among such sheep. Never should ewes be placed in such folds before lambing. Hoggets may and do thrive in them, but we never allow ewes to have Turnips before the lambing. Afterwards, when ewes and lambs are doing well, a field of late-sown Swedes is a great boon, especially if the winter has been mild and the tops are green. The lambs run forward and eat off the tops and very much of the bottoms as they gain size.

Timely attention should be given now to having plenty of dry food at hand in case of snow. A good stock of sweet chaff and crushed Oats, with a stack of Pea straw (for the sheep to have in racks), near an upland meadow well sheltered from cold winds, is a guarantee of good feeding, whatever the weather may be. Do not wait till the snow comes, but have all in readiness now, and so be practically independent of the weather.

#### ROOT AND SEED STANDS AT ISLINGTON.

THE annual Exhibition of the Smithfield Club in the Agricultural Hall, Islington, is particularly interesting this year, and the entries are

much larger than in the two past years. Cattle, sheep, and pigs, as usual, occupy the greater portion of the ground floor, and the galleries are devoted to the lighter forms of agricultural machinery, together with the imposing stands of roots and seeds from the various large firms which make a special feature of the farm seed business. To the latter we must, in accordance with our custom, devote a few words.

Turning to the right after ascending the stairs near the offices, the first stand which attracts attention is that of Messrs. Sutton & Sons, Reading, which is arranged in a very effective manner, semi-circular mounds of handsome Swedes and Mangolds occupying the upper part, with samples of seeds below in tasteful cases, and examples of the chief specialties in other departments with some of the honours they have secured. Among the Swedes the variety which principally attracts attention is Crimson King, a tankard-shaped purple Swede, introduced in 1883, and which has lately come into such great prominence as a prizewinner and an enormous cropper. Champion Swede still maintains its reputation which it has borne since it was first sent out by the Reading firm in 1857 for general cropping. The roots are slightly smaller than the Crimson King, very hardy, growing well into the ground. Good roots are also exhibited of Sutton's Stubble Swede, a valuable variety which often succeeds well when sown after the corn crop has been removed. Among the Turnips Purple-top Mammoth, Imperial Green Globe, Snowball, and Favourite, a variety which gained the Highland Society's gold medal in 1877 as the best new or improved root, are represented by fine specimens. Of Mangolds the Golden Tankard seems to improve year by year in their quality, shape, and in depth of golden flesh. Crimson Tankard is also a great acquisition. It has all the useful qualities of the Long Red with the advantage of a tankard-shaped root, which is much easier to remove, and the roots are less fibrous-rooted than those of the Long Red. Yellow Globe is also a favourite Mangold. Disease-resisting Potatoes and samples of Maize ripened in England are also shown.

Next to be noticed is the handsome exhibit from Messrs. Carter & Co., High Holborn, which is as full of interest as ever, and the roots shown are remarkable for their clean even appearance. Very conspicuous is a central mound of the Elephant Swede. It is said that thirty valuable cups have in a few years been awarded to this variety, including the Gloucester county cup, value £21, two years in succession; the Duke of Grafton's prize cup, £20; the Ledbury Hunt cup; Gloucester City Corporation, £10 10s. cup, two years in succession; Messrs. Proctor's first prize of £15 15s. in 1890; and Lord Wantage's prize of £5 5s. in Berks the same year. It is also said that last year it was grown by 20,000 cultivators in various parts of England, Ireland, and Scotland. Messrs. Carter devote an important area to the exhibit of enormous specimens of the select stocks of Warden Prize, Mammoth Prize Long Red, Golden Tankard, and Golden Intermediate Mangolds. There are also to be seen excellent examples of some of the most popular varieties of white and yellow-fleshed Turnips, the latter being more especially identified with the business of the colonial flock-master, with whom these Turnips are deservedly popular. Additional interest attaches to the examples of grass seed for laying down land for permanent pasture, illustrating their well known and successful system.

Upon the opposite side of the gallery Messrs. Webb & Sons, Wordsley, Stourbridge, have one of their characteristic displays of excellent roots and seeds, a rather different system of arrangement being adopted than with the other stands, the roots being placed in deeper and nearly perpendicular slopes. They represent the special varieties which have gained so many prizes, such as Imperial and Giant King Swedes, Mammoth Long Red Mangold, and Invincible Turnip, all, with many others of well proved merit. Kinver Chevalier Barley is conspicuous amongst the grains, but several other fine Barleys, Oats, and Wheats are included. Potatoes and other vegetables are well shown, with grass and flower seeds of all kinds.

#### METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

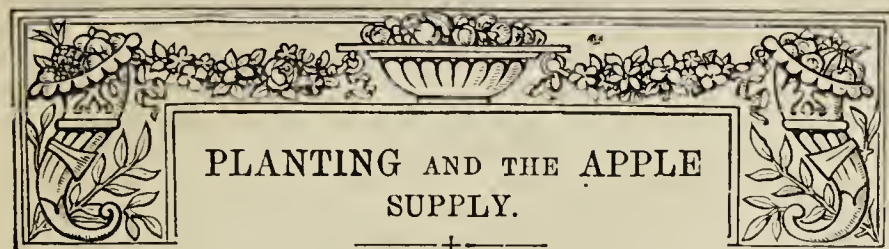
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1891. November and December.		Barometer at 39°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun		On Grass.
		Inchs.	deg.	deg.		deg.	deg.		deg.	deg.	Inchs.
Sunday ..	29	29.704	45.7	45.6	S.W.	40.4	47.4	39.4	51.0	34.8	0.010
Monday ..	30	29.817	36.6	36.4	S.E.	40.9	45.0	34.0	47.7	23.4	0.019
Tuesday ..	1	29.865	44.5	43.7	S.W.	40.4	49.8	35.8	65.3	27.3	0.695
Wednesday ..	2	29.409	46.9	45.9	S.W.	41.9	50.6	45.0	66.7	41.6	—
Thursday ..	3	29.745	49.9	48.9	S.W.	42.6	56.4	40.1	57.1	31.9	0.059
Friday ..	4	30.016	53.0	52.9	S.W.	44.9	55.3	49.6	71.1	48.1	—
Saturday ..	5	30.132	54.7	53.1	S.W.	45.7	57.2	46.7	61.4	39.7	0.062
		29.813	47.3	46.6		42.4	51.7	41.5	60.0	36.0	0.845

#### REMARKS.

- 29th.—Wet till 9 A.M.; overcast and damp day.  
 30th.—Wet fog early, and dense yellow fog from 10 A.M. to 11.30 A.M.; then showery or drizzly, and fog again in evening.  
 1st.—Bright morning; overcast afternoon; damp evening; wet night.  
 2nd.—Wet till 7 A.M.; bright and fine after 8.30 A.M., and bright night.  
 3rd.—Overcast throughout.  
 4th.—Damp early; bright fine day.  
 5th.—Overcast early; cloudy day.  
 A mild and damp week. Temperature about 5° above the average, and nearly 9° above that of the preceding week.—G. J. SYMONS.





OWING to the heavy and almost continuous rain, the planting of fruit trees has been checked considerably, especially in strong soils. Autumn planting is admittedly desirable; but it is better to wait a little time than to force trees into the ground when it is in a very wet adhesive state. Still, when it is in suitable condition from now onwards, it is better to continue the work than to wait till next November.

Since so much public attention has been directed to the production of hardy fruit and the shortcomings of our home supply a great extension in planting trees and shrubs has followed, and not before time. It would have been well if the work had begun sooner, and many persons who established young plantations in suitable soil a few years ago and tended them well have been so satisfied with the results that they have extended their operations, in some instances very considerably. Teaching in the form of practice such as that indicated is the most effective of all, and the most cogent reply to those who teach by their reasoning faculties alone that the planting of fruit trees is being overdone.

If there is one thing more certain than another as bearing on the fruit of the future it is that the market supply will, in a very few years hence, be afforded almost exclusively by the produce of young trees growing healthfully in good soil. Why? Because so many young trees are now established, and affording fruit so much superior to orchard veterans, that it follows as the good increases in bulk there will be no demand for the inferior, and the time is not far distant when only the meritorious will be "looked at" by purchasers. It follows, therefore, that according to the law of competition those who desire to share in the production of fruit cannot possibly do so profitably in relying on trees that have had their day and done their duty.

New generations of trees should and will be provided to meet the demands of new generations of consumers of fruit, and if the trees are not planted in this country they will be most assuredly planted in others. Time is almost vanquished by electricity, and distance is of little object in these days of express trains and fast steamers. The state of the markets of the world is flashed to those who can supply them, and all voids are quickly filled where even small profits can be made on transactions; and small profits on hundredweights, or barrels of Apples for instance, sent in large consignments amount to substantial sums in the aggregate.

How extensive these consignments are is shown incidentally in the report of an Arbitration trial which may be found on page 471, and in which it will be seen that one provincial fruit broker alone undertook to ship to one firm in London 12,000 barrels of Apples in a fortnight. We may take that to be a mere item in the trade of the parties concerned, and they are only two out of many who are competing in the same way. The rivalry of brokers, merchants, and shipowners stimulates the producers to grow more and more fruit, and if home growers intend to hold their own in fruit production they must plant young trees in soil prepared as for high class garden culture, and keep it well charged with fertility. Nor is that all, for the trees must be rationally managed, so that the virtues of the soil are not only appropriated by the roots, but converted into sound wood and

fruit-producing matter by the leaves for storing in the stems. If this is not accomplished soil fertility is wasted. For preventing this waste we must have clean growths so thinly disposed that every leaf can develop under the full, free and direct action of sun and air. There is no other way in which the virtues of the soil, the food of fruits, can be turned to profitable account.

Every good leaf, or leaf perfect in structure, is a strengthener of the tree, and contributes to its fruit-producing power; every bad leaf is a weakener of the tree, and an exhaustor of the soil. Leaves grown in the absence of light, in overcrowded trees, are exhausters, as are those on long, strong, and sappy growths, which are allowed to extend rampantly throughout the summer, as if for no other purpose than to enable a great show to be made by pruning in the winter. Young trees, therefore, must not only be well planted in a suitable medium, but the common evil of overcrowding them in summer by injudicious pruning must be avoided. Useless soil-exhausting growths must be prevented, and only those encouraged and retained that are essential to health, form, and fruitfulness. Far more good can be done by the thoughtful use of the fingers and thumb in disbudding in spring than by wholesale slashings away with the knife in winter of parts that ought never to have been permitted to grow.

But to return to the supply of fruit. The inability of home cultivators to meet the home demand for Apples at the present is indicated by the circular of a fruit broker. It is there stated that the imports of Apples into Liverpool alone this autumn up to the 18th ult. amount to 331,646 barrels, or at 140 lbs. a barrel, no less than 3,616,460 stones (14 lbs.) of fruit. The prices quoted generally range from about 10s. to 15s. a barrel, and it is stated the demand is active and prices firmer. This activity in the demand and firmness in price is attributed to the "specially good quality of the fruit offering." That ought to be specially noted, for it is one more example of the commercial fact, that the supply of anything distinctly good creates a demand. There can scarcely be a doubt that fruit would have a larger share in the diet of the nation if the produce generally was more tempting in appearance. Clean, bright, uniform samples are alluring, the trashy and unsightly repel the public, who readily purchase the more tastefully displayed fruits sent from the Continent and elsewhere.

It has been stated before, and will have to be stated again, that as the trashy crops, "all rind and core," deprive the soil of more of its fertility—mineral wealth—than do the largest and most coveted fruits, it follows that these can be grown and sold profitably at prices usually paid for the inferior. That should be the aim of cultivators, because it is the best possible way of making new customers for their wares. Raise the standard of fruit and purchasers will be bound to increase, the consumption of fruit will be greater year by year, and the general health of the nation be improved in consequence. The imports referred to show how great is the demand, and another fact shows that it is increasing—namely, that although our Apple crops were better this year than last, yet the increase in imports this year over last amounts to no less than 240,145 bushels, or more than 2,000,000 stones of fruit.

No doubt there are persons in this country who are honest in the belief that home-grown Apples cannot equal in public estimation the consignments referred to. Arguments are lost on persons holding those views, but facts cannot be ignored, and one of my friends has at the present time no difficulty in selling his Apples in a midland town at nearly or quite twice the current price of the best stocks that have had a journey across the ocean. They are uniform in size, speckless, and bright, and are preferred because of the greater briskness and piquancy inherent in British Apples than pertains to those grown under the more tropical sun in other lands, and so it will ever be.—J. WRIGHT.



## PLANTS AND FLOWERS FOR CHRISTMAS.

At this season we all wish to have plenty of flowers and plants. All need the former for home use and some over to send away, while many have in addition churches to supply and to decorate with flowers and plants. I do not think that a general review of what may or can be done would be so helpful as particularising what I do myself. No doubt many with better means of production will find little or nothing new, but those who are less happily situated I hope may derive some benefit.

Taking first of all the requirements of the home establishment, there no difference is made in the flowers or plants used in apartments except in cases where dinner parties occur at this season. The plants in general use are various Palms, notably *Cocos plumosus*, *Kentia Belmoreana*, and the common Fan Palm, *Latania borbonica*, three essential species. Green and variegated Indiarubber Plants, several *Aspidistras*, green and the variegated *Pandanus Veitchi*, Maidenhair Ferns, and *Isolepis* are the chief foliage plants.

Flowering plants comprise *Chrysanthemums*, *Marguerites*, *Bouvardias*, *Richardias*, the earliest Lily of the Valley, sometimes crimson *Duc Van Thol* Tulips, *Narcissus præcox* and *pallidus*, and a few *Hyacinths*. For extra table work *Crotons Johannis*, *Mrs. Dorman*, *Angustifolius*, *Dracæna Mrs. Freake*, *Cooperi superba*, variegated Pine Apples, variegated Indiarubber and Palms are among the best. For the private chapel *Richardias*, *Pandanus Veitchi*, *Aspidistras*, *Panicum variegatum*, Maidenhair Ferns, *Odontoglossum Alexandræ*, *Poinsettias*, *Calanthe Veitchi* and *C. vestita*, and a few Palms are used, sometimes adding a *Croton* or two if to spare.

The cut flowers in use for apartments generally are late *Chrysanthemums*, the varieties in flower, as a rule, at this time being *Val d'Andorre*, *Peter the Great*, *Guernsey Nugget*, *Fair Maid of Guernsey*, *Princess of Teck*, *Lady Margaret*, *Miss A. Lowe*, *Ethel*, *Mrs. J. H. Jones*. These are sorts to be depended on with the treatment we give them, but there are always others which are rather erratic in their behaviour, sometimes flowering too early and sometimes at the period wanted. Lily of the Valley, which is much thought of; *Cyclamens*, Chinese *Primulas*, *Pelargoniums*, *Richardias*, quite a host in themselves; *Cypripedium insigne*, *Calanthes*, *Odontoglossum Alexandræ*, anyone with fifty to a hundred plants may have a few spikes of this now; *Odontoglossum Rossi majus*, a most useful species; *Cytisus filipes*, *Heaths*, *Bouvardias*, a few *Roses*, *Carnations Germania*, *Miss Joliffe*, and *Pink Malmaison*. Then there are generally odd flowers coming in at this time, besides bought bulbs such as *Roman Hyacinths* and *Tulips*.

For a series of dinner parties the table is varied thus:—The first evening *Chrysanthemums* in variety laid on the cloth and lightly veiled with Maidenhair, the same in silver vases, and one tall *Croton* as a centre. The next evening no vases but an arrangement of *Coleus* leaves and shoots, the varieties used being *Recamier*, a very rich dark variety, and *Gil Blas*, a veined variety with much crimson in its composition. Two Palms in silver pails were in the centre of the table with a branched candlestick dividing them, and two of the latter at each end of the table. Pink shades were used, and a good deal of gold and silver plate, the effect being very good. Other good *Colcuses* for this purpose are *Tête d'Or*, *Vesuvius*, and *Rising Sun*. Of course all these must be particularly well coloured.

Another evening red *Chrysanthemums* were used, *Val d'Andorre* cut with stalks 10 inches long, and five to six arranged in vases so loosely as to allow every spare bloom to be seen. Well-foliaged shoots of the deep yellow *Croton interruptus aureus* were disposed under the blooms. The plants used were two brightly coloured variegated Pine Apples. The effect in this instance was bright and striking. For a special dinner party in the same series nothing except *Cypripedium insigne* was used along with *Asparagus tenuissimus* as a slight veil. The flowers were laid pretty thickly all over the table save round the narrow ledge devoted to plates. The plants employed in this instance were two tall specimens of variegated Indiarubber. Yellow shades were in use for the candles, and the plate was gold. It would be difficult to excel this arrangement in soft beauty, yellow and green being the predominating shades. Of course it requires a large number of plants to yield sufficient *Cypripedium* flowers, but those who have much decoration to undertake would do well to grow a number in order to have a winter supply. For other purposes this is a most useful flower.

Upon one occasion the change was of the most decided nature. No plants were used, but three large cups were loosely filled with common *Rushes* intermixed with a few of the very smallest *Bull-rushes* it was possible to obtain. *Browned Fern fronds*—*Athyriums* and *Pteris aquilina*—were added, and a few branches of *Beech* with copper-coloured leaves. On the cloth more brown Ferns were sparingly used, with a good many branches of wild *Rose* covered

with red heds, the only flowers used being flowering sprays of the common *Strawberry Tree*. The evening next to this white *Chrysanthemums* alone were used. The plants were two tall deep-coloured specimens of *Dracæna superba*. The middle of the cloth alone was covered with the flowers, and the method of arrangement was what would have been "heavy" if any other but a white variety had been used, and that variety one of the "paper shaving" class. Good sized shoots were cut—the stems had not been disbudded—and laid thickly, but not too thickly, on the cloth, so as to make the candlesticks and various vases and cups appear to be rising from a bed of flowers. The foliage used was *Jasminum gracillimum*, *Cissus antarcticus*, and a few sprays of *Cytisus filipes*.

For church decoration the best cut flower is undoubtedly the *Richardia*, and it is well to grow a quantity of this most useful continuous-flowering plant. In the parish church, in addition to these in pots we also use *Chrysanthemums* banked round the pulpit and organ, lightly grouping *Richardias*, Palms, Ferns, cut foliage, and panicles of *Pampas Grass*, *Rushes*, *browned Fern fronds*, *Cyclamens*, *Honesty*, and indeed anything of no great value. The best material I have tried for wreathing pillars or windows is common *Box*; it is so quickly fixed, and looks better than anything else. Light wreaths of *Variegated Holly* are useful; green *Holly* boughs with berries are employed for dressing brackets, window ledges, and for covering pots where specimen plants are used singly in conspicuous positions. Simplicity in material and boldness in design are the chief factors in securing a well-decorated church. Where several parties are engaged in carrying out details it is exceedingly difficult, if not impossible, to secure this; but if a gardener has the charge and possessed sufficient judgment to know where to begin and where to stop then there ought to be no interference with his designs. Much better have an insufficiency than to have every nook and bare portion overloaded with so-called decorations.—B.

## STANDARD TRAINED FRUIT TREES.

I HAVE known the time when trained standard fruit trees could not be bought, while now there is small demand for them. One reason probably for this is the fact that they are naturally more costly than are dwarf trained or maiden trees, and in these days of enforced economy every item has to be studied. Then, again, they are more difficult to pack, and may not at all times travel quite so well as desirable. Moreover, modern fruit growers are not so particular about maintaining a very perfect form of dwarf trained tree, and more often than not the latter is allowed to "have its head," so to speak, the principal aim being to furnish a wall with bearing wood as quickly as possible. A more widespread trial of cordons or trees, with from one to four main fruiting branches trained uprightly, has also been another factor in the case, such being planted where in bygone days "riders" or standard trained trees were located.

The question now to be decided is whether this departure from a time-honoured custom is altogether for the best. That such may be the case, as a rule, with *Pears* and *Plums*, I think there is no disputing, both kinds of fruits, if given fair play, furnishing wall space very rapidly. Only in the event of extra high walls being bare of trees is it particularly advisable to plant standard trained trees of *Pears* and *Plums* midway between others with low stems; but when we come to consider what is best to be done in the case of *Peaches*, *Nectarines*, *Apricots*, and *Morello Cherries*, opinions will most probably be less decided. That garden and other high walls and fences cannot well be too quickly furnished with fruiting trees all will agree, and if the quickest method of accomplishing this is the most expensive in the first instance, it may yet, and most probably will, be the most economical in the end. Walls cost so much to build, and are of such good service to the fruit grower, that they cannot well be kept too closely furnished with trees, and, with such abundance of second-rate fruit now likely to be forthcoming annually, none but choice varieties should be selected for the walls. No time ought to be lost, therefore, in the matter of furnishing blank spaces or in the re-arrangement of trees already in possession of the best places, and standards might with advantage be employed in either case. For instance, they could be planted midway between dwarf trees that are either nearly worn out or of a comparatively worthless variety, the latter being cut away according as the standards require more room. If this fresh move is made with healthy trees, these having well developed clear stems, a good sized hole and perfectly fresh loam provided for the roots, progress will be satisfactory in every way.

It must be borne in mind that some of the best trees to be seen in the country have long clear stems, say from 4 feet to 6 feet in length, being originally planted as "riders." Not a few of the standards that were planted with the view either to transplanting



or cutting them away, according as the dwarf-trained trees between them require more space, have been found to do so well that these have been retained and the dwarfs gradually cleared out. In some instances nothing but half-standards were planted at the outset, and well balanced heads on these furnish a wall from top to bottom, a lapse of several years still finding them in a fairly vigorous and most productive state. Sixteen years ago I helped to plant a number of Morello Cherries against two long high garden walls, dwarf-trained trees being disposed 20 feet apart, with the 4 feet standards midway between them. At the present time not one in twenty of the dwarfs are left where planted, the standards having done so much the best from the first. Why the latter should succeed better than dwarfs in some cases and not in others is not so difficult to decide as may appear at first sight. Being trained at a good height up the walls they derive greater benefit from the warmth, light, and air than do the low trained trees; those against north walls being the most improved. The branches are nearly also more depressed in training, this checking extra strong growth, and on the whole it is not particularly surprising that standard or half-standard trees should have better balanced heads, better ripened, more durable wood, and produce crops more surely than the less favourably located dwarf-trained trees. I do not urge superseding the latter, but only suggest that we may be too hasty in deciding wholly in favour of either one or the other, the happy medium being most commendable.—W. IGGULDEN.

### GLOXINIAS FROM SEED.

IN olden times Gloxinia culture used to be rather a tedious business, but of late years the strains have been so much improved that few people, I suppose, now trouble to propagate these plants by means of leaves. Some years ago a writer gave a hint in the pages of the Journal as to planting Gloxinias upon hotbeds, and I adopted the plan, which should be more generally tried, as much finer tubers can be had for the following year than in any other way. We grow the erect kinds only, as they suit our requirements the best whether for cutting purposes or for general utility. My mode of procedure is as follows.

The seed is usually sown about the first week in February in the following manner. Take a shallow pan 9 or 10 inches in diameter, thoroughly clean and thoroughly well drain, covering the drainage with a little sphagnum or common moss. Fill within half inch of the rim with a mixture of brown peat well rubbed through the hands, adding enough sand to make it sparkle. Make it quite level, then very carefully open the seed packet, as the pinch of seed is so small that unless care is exercised it will be lost altogether. I have found it a good plan to get half a sheet of note paper—an old letter will do equally well—upon which I place about two or three thimblefuls of very fine sand, then pour out the seed on this, and well mix together, as it can then be sown much more evenly over the pan than by attempting to sow it out of the packet. I then water through a very fine rose, and do not cover with soil, but place a piece of glass over the pot, and cover the glass with moss to keep the seed dark, and place it in a warm moist house. Although the seed is so very small it is some eight or nine days in germinating. Keep a close watch, however, and as soon as the seedlings are visible gradually remove the moss, but take care the pan is shaded from the direct rays of the sun. I rarely give any water from the time of sowing till the seedlings appear, and then keep them covered with the sheet of glass for some time, as they grow away much faster than without it. Occasionally wipe off the condensed vapour, and gradually remove the glass as the seedlings put forth the rough leaves. I generally remove the glass by night at first, and though some will say I am too particular, I find they pay for any little attention.

As soon as they can be handled prick them out into shallow well-drained pans of peat, with a handful of old, sweet, and rather dry Mushroom bed refuse well rubbed through the hands, but not sifted, with enough sand to make it sparkle. I usually prick out the seedlings rather thick at first, as I fancy they do better, and as they become large enough they are again transplanted into shallow boxes, and grown till they are about 4 inches across, when they will be ready for planting into the frames or pits. They prefer a steady lasting warmth, afforded by half-spent leaves and manure mixed. I usually grow Alternantheras and similar plants upon the beds, first merely giving it a turn, just adding a little fresh material as the work goes on, making a firm bed. Upon this I place Cucumber frames, filling with from 6 to 9 inches of soil, about half loam and peat or the refuse from other pottings with a little sand, as they obtain their chief sustenance from the gentle ammonia vapours of the hotbed.

All being carefully levelled the plants are placed out carefully about 10 inches or 1 foot apart, or they would be better with even

more space than that. One good supply is given of warm water, and care is exercised that the sun does not play directly upon them. I usually shade the lights rather thickly with summer cloud before planting, as I once had one frameful completely spoilt while we were at dinner. They will only need attention in watering occasionally, with cautious ventilation, and if the nights be chilly throw a mat or two over the frames; they will grow luxuriantly, and give hundreds of magnificent flowers for cutting, which I have never been able to obtain in any other way. They will continue flowering until quite late in the autumn, and make fine heavy, fleshy tubers for the following year. They should be induced to retain the leaves as long as possible, as I find the tubers swell considerably after the leaves cease growing. About the middle of November we take them up, pack them thickly together in shallow boxes, covering with cocoa-nut fibre refuse for the winter, and place them under the stage of a greenhouse where the temperature does not fall below 45° for any length of time. It may be necessary to fresh line the hotbeds a time or two during the summer and autumn. I have on some occasions lifted tubers considerably over a half a pound weight. They must be well secured against drip when under the stage of the greenhouse. I always take the precaution to tilt a large pane of glass or slate over them, as if a drip falls upon them decay commences at once.

In preparing for the second year we usually make a start about the middle of February. We adopt what may be called a warm greenhouse treatment. The house is span-roofed, 24 feet by 12 feet. I make a point each year to empty it for a short time to give a thorough clean out, washing the woodwork and every part with hot water and petroleum, as if Gloxinias once become infested with thrips or bug it is all over with them, for they cannot be sponged, and to fumigate sufficiently to kill thrips is ruin to the plants.

We sort the tubers into two sizes. The largest are placed in 32-size pots, and the smaller of them into 48-size thoroughly clean. The drainage is as complete as it can be made. The compost used consists of equal parts of brown turfy peat and loam, with some sweet Mushroom bed refuse and a good dash of coarse silver sand. We mix the whole thoroughly, but leave it rough, using some of the turf over the drainage. The tubers are usually covered an inch or so, but always leaving an inch of space to hold water, as the tubers swell considerably. We press rather firmly, arranging them close together on one of the side stages, which is of slate and covered with shingle. They at first only occupy one-half of one of the stages, the other part of the house is generally used for newly potted bedding Pelargoniums that require a little extra warmth. We give one thorough watering, and no more until the soil appears to be dry, and the greatest care is exercised until they have filled the pots with roots. The temperature is kept about 55° to 60° by night, rising considerably by sun heat. Their progress should be steady, the air of the house being kept fairly moist, but not enough to promote long sappy foliage. Spread out the plants as the foliage reaches the sides of the pots. At first we usually give them the whole length of one side of the house, placing each pot upon an inverted one, as in time they will completely cover their own pot and the one they stand upon. The house should be ventilated, but never open the side lights, as they will not endure draughts. If a crowd of small shoots appear we thin them to about three or five, which is ample to make a thoroughly good plant. Many of them will need a little attention in this way, and as they grow they will again require further thinning until the house is filled.

Watering is one of the chief points in connection with their culture. The best soil and the best house are useless if the watering be trusted only for a short time to an inexperienced hand. As soon as they have filled their pots with roots and have commenced to show their flower buds freely I commence feeding them with guano water. I have tried all sorts of manures, but nothing ever gave so much satisfaction as good guano. I place about a pound into a 4 gallon can, and if I want to use it at once I fill it with warm water, and with this about three such lots are made, or twelve gallons. I water them with this three times a week until they are in bloom, when all stimulants are discontinued. I often find it necessary to supply water twice a day, as when they become a mass of foliage and flowers it will be readily understood they require a great deal, and often the pot becomes so completely covered it is difficult to find a place to apply the water. Let the supplies from the commencement be thorough, and do not get into that half-hearted way in giving it by dribblets in their early stages. It is always better to err on the side of giving too little than too much; but in the later stages they can be freely watered without fear of injury.

As I said at the commencement they must have some shade. We use milk and whiting with some green powder added till about the thickness of cream, and apply when the glass is



thoroughly dry and hot with the sun. It will remain on all summer. The floors of the house must be kept damp in hot dry weather, in damp cloudy weather a little heat in the pipes will prevent the plants suffering from damp. They are always seen at their best in the early morning or just before sunset. If the tubers are wanted to be kept over another year they should be cared for after the flowers are over, and not hastily dried, I have heard of people drying them and starting them again the same autumn, but I have never found the practice satisfactory; nor do I save seed, as this exhausts the tubers. I therefore prefer to purchase seed, and that is much better left to experts. Enough to furnish a fair size establishment can be had for 2s. 6d.—C. EDWARDS.

### CORDON GOOSEBERRY TREES—BRAMBLES.

THESE trees I find are coming more to the front every year. I was pleased to see the notice and sketch given in the Journal for the 12th November. Some people may think the drawing exaggerated, but with careful planting and training anyone will soon be satisfied with the fine crop these produce every year; and with a careful selection of kinds, both of early, middle, and late, they could be had from Whitsuntide to September. We have a double trellis here about 100 yards long. This was placed over some young trees four years old. This trellis is about 4 feet high, opening out on the top 20 inches, like the letter Y. The trees were planted 2 feet apart, and three branches each side were trained to it, which leave them about 8 inches apart. This I find is wide enough, except for a few strong growers, such as Early Sulphur, which require a space of 12 inches between the branches. The supports are made of iron, they are 10 feet apart, and four wires are stretched on each side from end to end. The supports are fixed to blocks of oak.

We carefully watch for the first attack of the caterpillar. These should always be taken or picked off the leaf as soon as they are hatched, and never allowed to destroy the foliage before anything is done to prevent them. I find a good dusting of soot or lime under the trees is a great preventive, two or three times during the year, and lightly pointed in. The red spider, another enemy, should be kept in check by syringing with lime water or soot water two or three times in the early spring, just before the buds swell. It is desirable also to keep the ground well mulched with good manure, and give two or three soakings of liquid manure during the growing season if a dry one.

Birds are sometimes troublesome in taking the buds, and also the fruit when ripe. Trees can easily be protected with the garden netting, which can now be bought very cheaply. I find I have one more enemy than I bargained for, that is the wasp. I find the only way to save the berries is to gather them before they crack, as I never find the wasps begin to take them till then. I often think a slight covering, such as feather-edge boards, as soon as they are ripe, would prevent cracking and prolong the time for gathering. I have gathered good fruit up to the second week in September. Some I have kept for a month after gathering by laying them out singly on a tray.

I am pleased to see the *Whinham's Industry* so highly spoken of. I find this a good early and free bearing handsome fruit, with a good bloom when ripe, but is not the earliest with me. We have a large smooth one that always comes in before any other. I never knew the name, although I have seen it for over forty years.

We always begin to thin from the trellis a week or so before Whitsunday, and by leaving the best fruit about 1 inch apart on the branches we have plenty of fine Gooseberries for table; and by planting about ten or twelve varieties we keep up a succession all through the season. When ripe we begin with *Early Sulphur*; following with *Whitesmith*, the large white smooth; and *Crown Bob*, *Lion's Provider*, *Honeydew*, *Dewdrop*, the old *Warrington*, *Whinham's Industry*, old *Rough Red*, and *Red Champagne*; the two last are small but good. I have tried several of the Lancashire prize sorts, but am inclined to rely on the old favourites for flavour and good keeping qualities. I find the birds do not take either the buds or fruit if any of the larger kinds are near.

White and Red Currants bear excellent crops if trained in the same way as the Gooseberries.

We have had an excellent crop of Blackberries, and the weather being mild, they ripened well up to the end of October. The best here is the old *Parsley-leaf Bramble*. The one secret about them was taken from the Journal—namely, to treat them the same as Raspberry canes in cutting out the old wood, and the young wood will come stronger every year. We have a few Brambles collected from the hedgerows. These have done well, but the *Parsley-leaved* is the finest and best flavoured, but not so early as the common English one. These I think if planted on a

ridge of ground about 10 feet apart in the rows and trained on a wire about 3 to 4 feet from the ground in rows about 6 feet apart, when once established would produce a good paying crop, and one to be depended upon every year.—GEORGE CLEMENTS, *Gardener, Haseley Manor, Warwick.*

### HORTICULTURAL LECTURES.

THE above subject is one of the many good works that is being placed by the County Councils before the public, and the thought which immediately strikes one is, Do the public in general appreciate their usefulness? At one place that I have attended in Surrey the lectures are arranged to be held on Saturday mornings for the convenience of school teachers, as a knowledge of horticulture is to form one of the future teachings in our national schools, but anyone has the privilege to attend by paying 2d., and I can assure all who can do so that the time will be profitably spent. The great drawback in this particular instance is that the lectures are given at midday, a very busy time with the amateur gardener, who is often a man of business, and an awkward time for the under gardener to be spared. For such, and many others, the evening arrangement is a great boon. No doubt there are some young gardeners, and some, perhaps, not young, who would not trouble to enter the doors were they close at hand. That class of man, as the old saying goes, "will not be worth his salt." With no determination to excel, and no love for his calling, he is not worthy the ancient and honourable name of gardener. The anxious and persevering man has nothing to fear from such a neighbour, only that in a few instances the easy-going one will, by some family influence or other cause, get placed in position that he is unable to fill with credit to our craft into which he has found his way.

Then, again, let any observant man look through either the cottagers' or gardeners' exhibits at our Shows and see for himself which of the two have the better exhibits. Without doubt the man who is eager to gain all the information possible, and who looks for his gardening periodical as regularly as he looks for his meals.

Another point that I venture to think worth recommending, and which I feel sure would be encouraged by the lecturer as well as giving the audience faithful ideas of what good culture will produce, that is honorary exhibits, and good specimens of either hardy fruits or vegetables grown in the locality. Though the lecturer may be well provided with good charts and faithful representations of various objects, showing the effect of good and bad management, yet I believe living specimens would be both helpful to the lecturer and stimulating to the audience, and it might be the means of inducing some at least to try and do likewise.—J. FRIEND.

[The lectures referred to at Red Hill are held on Saturday mornings, because at no other time could schoolmasters and teachers attend. Some of them travel long distances for gaining knowledge, in order that they may be better able to teach horticulture in schools, and we believe in some the teaching has already commenced. Mr. J. Wright has been fortunate in securing Mr. Edward Luckhurst for delivering these morning lectures, which cannot fail to have good and far-reaching results. Mr. Friend's suggestion is an admirable one. He has brought produce to the meetings of first-class quality—Onions to one, Endive to another, Seakale to a third, and so on; while Mr. Green, schoolmaster, Horley, has exhibited excellent Apples of his own growing. If owners and managers of gardens in localities in which meetings are held could see their way to send hardy fruit and vegetables, or examples of anything else that would be instructive, they would usefully share in carrying out the laudable object the County Council has in view. The whole of the Surrey meetings are held at night with the special exception referred to, and on the termination of the series at Red Hill a similar series will be held on Saturday mornings in another centre, and possibly night meetings as well for the general public, therefore in this respect Mr. Friend's desire will be realised.]

### LARGE PEARS.

It is not often that such examples of Pears as those staged and which gained the first prize in the single dish class at the late Bath Show are seen, and they accordingly proved a source of considerable interest among exhibitors and visitors alike. The variety was the now popular one at November shows, *Pitmaston Duchess*. Happening to know the exhibitor of the fruit under notice I was curious enough to inquire the extent of the crop, and I learn that, although the tree is only a comparatively young one, it carried quite four dozen fruits, none of which was less than a pound in weight. The dish of eight fruits staged at Bath weighed



10½ lbs., the largest turning the scales at 26½ ozs, another 23 ozs. The competition was unusually keen, no less than thirty-two dishes being put up; among them, too, were several fine exhibits of the same variety. The tree occupies a position on a lofty wall, having a west aspect, and being worked on a Pear stock it grows so freely as to require frequent root manipulation. Though but a young specimen, it has been removed to fresh stations twice; but the secret of its well-doing, I presume, lies in the fertile nature of the soil and the excellent attention bestowed at all seasons. Its roots are protected by a thick mulching applied in early spring, and this, together with frequent supplies of clear liquid manure in dry weather, promotes a vigorous, though at the same time fruitful, growth, for I am told it has never yet failed to yield a crop since it began to bear. By leaving them on the tree as long as possible the supply of this sort is kept up till the end of November this year, which for the variety, and taking into account the unfavourableness of the season, might be considered late.

I never remember witnessing the value of water, as applied to open-air trees, more strictly exemplified than in this case, and though many growers would prefer to have perhaps twice the number of fruits of a more useful size than fewer of a sensational character, yet great credit attaches to the cultivator who can secure a first prize from among so many as thirty-two competitors, all of whom staged superior produce. The grower referred to is Mr. J. Gibson of the Draycot Gardens, Chippenham.—W. S.



#### NATIONAL CHRYSANTHEMUM SOCIETY.—DEC. 9TH AND 10TH.

THE early winter Show of the above Society was held last week in the Royal Aquarium, Westminster, and takes the place of the one which for some years past been held in January. It seems likely to develop into an extremely interesting and popular exhibition; and the one referred to was so decided an advance upon the January gatherings that the Society has ample justification for continuing the experiment. October, November, and January are essentially the Chrysanthemum months, and it would be well if the displays could be confined to that period. One point was very evident at last week's meeting, and that was the freshness of the blooms shown—a character in which the January exhibits have too often been deficient. The competition was also very keen in several classes, the first and second prizetakers in particular in most classes showing blooms so nearly equal in merit that the Judges had much difficulty in determining their relative position.

For twelve blooms of the Princess Teck type several good stands were contributed, the best being from Mr. Shoesmith, gardener to M. Hodgson, Esq., Shirley, Croydon, who had excellent solid fresh neat blooms of Princess Teck, Charles Gibson, Hero of Stoke Newington, and Lady Dorothy. Mr. Peter Blair, The Gardens, Trentham, was a good second, Lord Eversley and Mrs. N. Davis being notable in his box, Mr. W. G. Gilbert, gardener to B. Le Neve Foster, Esq., Senwick Hall, Guist, Norfolk, was third.

In a class provided for a collection of Chrysanthemum blooms unrestricted as to number of varieties, freshness being one of the chief features to be considered, Mr. H. J. Jones of the Ryecroft Nursery, Lewisham, was awarded first honours for a most tasteful arrangement of blooms set up in bunches, with Ferns and Palms to form a bank. This was a valuable exhibit in several ways, for it showed what charming effects could be produced by a well chosen departure from the orthodox methods of staging Chrysanthemums. Mr. Wells, Earlswood Nurseries, Redhill, was placed second for a number of well selected varieties; the same exhibitor securing the first prize for twenty-four bunches of Japanese Chrysanthemums. The leading stand of twelve bunches came from Mr. Cane, gardener to Miss Smith, King's Ride, Ascot, very fine and fresh; Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, being a close second; and Mr. Gilbert was third. For six blooms Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon Common, was first with admirable examples of Ralph Brocklebank, Etoile de Lyon, Stanstead White, and Madame Audiguier. Mr. W. A. Searing, The Gardens, Oak Lodge, Sevenoaks, was second; and Miss R. Debenham, St. Peter's, St. Alban's, was third; Mr. F. Taylor, gardener to Sir John Lubbock, Bart., High Elms, Farnborough, Kent, had the best twenty-four blooms particularly beautiful; Mr. C. J. Salter contributed the finest twelve blooms, and other successful exhibitors were Messrs. C. Cox, Shoesmith, Wells, and Brown.

Cyclamens were well shown by Mr. T. May, Twickenham, who gained first prize in the large collection class. In the amateurs' section for Cyclamens and Primulas the prizes went to Messrs. D. White, J. Bateman, C. Ings, and A. Newell. Messrs. Cutbush & Sons, Highgate, gained premier honours for a group of foliage and berried plants, well arranged.

The non-competing exhibits included a handsome display of choice

Primulas and Chrysanthemums from Messrs. Cannell & Sons, Swanley (silver medal). Mr. R. Owen, Maidenhead, had a collection of new Chrysanthemums, similar to that at the Drill Hall on the previous day (silver medal). Messrs. Pitcher & Manda, Hextable, sent numerous fine Chrysanthemum blooms, including several novelties; they also sent a group of Cypripediums (silver medal). Mr. N. Davis, Camberwell, contributed some choice late Chrysanthemums. Mr. W. Walker, gardener to A. Hearn, Esq., The Elms, Upper Tooting, secured a bronze medal for some well grown specimen Chrysanthemums; while high commendations were awarded to Mr. Newell for plants of *Epiphyllum truncatum*; and to Mr. J. Waldie, gardener to J. Bigwood, Esq., Twickenham, for fine blooms of *Etoile de Lyon* Chrysanthemum.

#### NEW CHRYSANTHEMUMS.

##### JAPANESE.

(Continued from page 495.)

THE Japanese section afford so much more variety in form and general beauty that they are undoubtedly the most favoured. So many people object to the round, close ball of the incurved. Besides, the Japanese are so much more useful from a decorative point of view, that no wonder they are appreciated more outside of the exhibition world. What I am pleased to note about the present year's introductions is their improved form. We obtain more flowers now of the Belle Paule type, which is at once full and graceful in its build. Such varieties as *Baronne de Prailly* and *Meg Merrilies* are fast being crowded out of the lists in a competitive point of view. We do not require sorts that have extreme width only to recommend them. We need those that are full and solid, that cannot be seen through when placed on the stands, and this quality we have in the new kinds now offered. What is equally important is the habit of growth. Such sorts as *Madame C. Audiguier*, which reach the astounding height of 14 feet, we do not want repeating. I am especially pleased to find that the bulk of this year's sorts are under 5 feet, which is a step in the right direction.

*Vivian Morel* (fig. 95).—This is so noteworthy that I have no hesitation in placing it at the head of the whole Japanese section, new or old, which may be considered by some a bold step. The blooms possess all the requirements which go to make perfection even in a race of flowers which contains so many forms of beauty. Even objectors to large blooms cannot but admire *Vivian Morel* in spite of its dimensions. I have seen blooms which measured 9 inches in diameter and 6 inches deep, and this without unduly spreading out the florets. The florets droop at the points exactly as they do in *Belle Paule*, but the great charm is in its massiveness, which is devoid of any coarseness, such as quilled or unevenly formed florets, as in the case of *Etoile de Lyon*, for instance, sometimes. Some of the florets in *Vivian Morel* are split or forked, which increases its value rather than otherwise. The colour is rather difficult to describe. Some call it blush mauve, while blush suffused and striped with rose would not be wrong. One thing is necessary to guard against in securing the best coloured blooms, and that is not to be too eager to "take" the earliest formed buds, or the petals will be nearly white. It is from later set buds that the finest coloured flowers are obtained. The habit of growth is of the right kind—3 feet 6 inches only, plants this height giving flowers of the size quoted. It is not an extra strong grower either. I have, I fear, covered considerable space in describing this charming variety, which has already been awarded premier prize as the finest Japanese in the show many times this season, which speaks well of it; therefore I could not do it justice in a meagre description. Another point in its favour is the free manner in which it throws up cuttings, which is totally unlike many varieties.

[The illustration was prepared from a photograph furnished by Messrs. J. R. Pearson & Sons, Chilwell, and faithfully depicts the chief characters of the variety. Mr. N. Davis, Camberwell, who has had some fine blooms of the variety, and has helped considerably to bring it into public notice, states that it was raised by M. Louis Lacroix, and formed one of his set sent out for 1890. Messrs. J. Laing & Sons, Forest Hill, exhibited fine blooms at the Royal Horticultural Society's meeting on October 28th, 1890, when it received an award of merit, and it was also honoured at the National Chrysanthemum Society's meeting on the following day.]

*Mlle. Marie Hoste*.—Next in point of quality comes this variety. It has broad flat florets, quite of the reflexed type of Japanese, but considerably too large to be strictly classed as one of that section, which in my opinion ought to take *Elaine* as a type. Flowers of *Mlle. M. Hoste* measure quite 8 inches across when fully developed, and is quite full and solid in its build. When developing the points of the florets curl up a little, which passes off with age; the colour is creamy white, with the faintest tinge of blush.

*Florence Davis*.—An English seedling from Mr. N. Davis of great promise; the florets are long, strap shaped, exceptionally even in width their whole length; the points incurve slightly until fully expanded. As the flower develops the green centre passes to lemon, and finally to white, which is the natural colour when fully expanded. It is a full solid flower, and deserving of extended cultivation.

*Gloire de Roche*.—As is now well known this is a seedling raised in Algiers from an English plant of *Val d'Andorre*, which it resembles in its growth. I regard this as most promising; the habit is dwarf with stout foliage, the blooms large, and with great depth and solidity; the colour—bright orange amber, flushed crimson—is pleasing.

*Albrie Lunden*.—A Japanese reflexed order, being full and solid. The colour is remarkable—deep crimson amaranth—and for brightening the stand this variety is quite first rate.



*James Dibbens.*—This I noted at the Kent County Exhibition. An English seedling; should be classed with the incurved Japanese, the points of the florets, which are broad, eurling just a little. The colour is a gold base with a purple and bronze suffusion; quite a distinct and desirable addition to a class very much appreciated and encouraged. This variety, I note, has since then received a first-class certificate from the N.O.S.

*Marquis de Paris.*—Of French origin. I lately saw it in Mr. H. J. Jones' Ryecroft nursery. The florets are broad, flat, and slightly pointed, the colour pink, ground mottled, and edged white. A flower of promise, the colour being so striking.

*Mrs. Libbie Allen.*—After the Grandiflorum style the petals extra broad for a flower of that class, and rather pointed at the tips. A very fine bold flower of a pleasing colour, soft yellow. F.C.C.

*Vice-President Audiquier.*—This reminds one of the Val d'Andorre style of flower, but much larger, of a flat spreading habit. The colour is especially pleasing—a kind of a delicate rose, which changes to white at the tips of the petals. Growers of exhibition blooms would do well to make a note of this.

*Miss Lilian Cope.*—A pure white sport from Etoile de Lyon, which originated in the hands of Mr. Carling, gardener at Dove Park, Woolton, two years since, where I then saw it. Even the smallest buds from side shoots come pure white. The general character of the flower is of the style of its parent, although perhaps more refined, the petals not being so long. As a large-flowered white variety it ought to receive considerable attention at the hands of exhibitors, and for producing late blooms in a bush state it should prove valuable, it being well known that its parent is amenable to this form of culture.

*Cléopâtre.*—Sent out by Lacroix as an improvement on Fair Maid of Guernsey, which it closely resembles, but is fuller in the centre, a deficiency which the older variety certainly has, except under exceptional circumstances. The florets are of medium width, pointed and folded, of a semi-drooping character. It is a promising variety even among so many whites.

*Advance.*—Here we have a new style of flower which may be too formal as a Japanese for some, but is sure to meet with many admirers. The petals are narrow and evenly incurved, but still belongs to the Japanese section. The colour much resembles that of Madame C. Laing, perhaps more inclined to full pink; a large and showy variety. Majestic is one of Mr. Owen's seedlings, the florets of medium width, flat or strap shaped, with a semi-drooping tendency; the colour a warm brick red, with a gold reverse.

*W. Tricker.*—If this variety can be so managed to flower a little later than it did this season it will become a popular exhibition variety. Even if it does not do that it is sure to be largely grown when its merits become more known. In my opinion it possesses the most striking colouring of any yet introduced of that shade of silvery rose, with just enough of the former to tone down the warmth of the rose. The form is slightly incurved at the tips of the florets, which are irregularly folded and serrated, which give it a somewhat coarse ragged appearance; still for its colouring it is a charming variety.

*Madame Mezzard* is large flowered and of dwarf growth; the florets are strap leaved, the colour is pleasing, the faintest blush on a pure white ground, which change to white with age. The plant is furnished with stout green leaves, which add to the beauty of the flowers.

*Mohawk* is one of the right type, carrying large flowers on plants not more than a yard high, maroon crimson with silvery reverse; the tips of the florets curl up a little, which adds to the novelty in appearance.

*Mrs. J. S. Foag.*—Narrow florets, some of which are split; a full flower, quite of the right type; colour golden yellow.

*Lord Brooke*, one of Messrs. Pitcher & Manda's seedlings, belongs to the incurved type of Japanese with broad florets; the colour is striking, centre of florets mahogany, outside an edging of gold, the entire inside of the florets gold, making altogether a deep, full, and bold flower, quite distinct from any other variety.

*Miss Alice Brune.*—Flat florets, bright crimson, fine.

*Yellow Avalanche.*—Whether this is to be the future name or not I cannot say, but certainly the variety is desirable, being an exact counterpart of the type except in colour, which is bright yellow. I am not quite certain on this point, but fancy it is in the hands of Messrs. Pitcher and Manda. In any case when obtainable it is a desirable variety to cultivate, the type being too well known to need further comment.

*Kate Mursell* is a primrose sport from Lady Lawrence, having all the characteristics of that fine variety in form and build; the colour being so pleasing it is sure to become a great favourite.

*W. A. Manda* is the new yellow hairy variety received from America. It is likely to prove the best in this section; the colour is pleasing, being of a deep hue, and altogether promising.

*F. W. Flight* belongs to the reflexed class of Japanese; the florets are bright crimson on the upper surface, with gold reverse.

*Madame Darquier* reminds one of Margot in colour; the florets are broader and flat, while in the case of the older sort they are tubular and pointed.

*Pearless* belongs to the incurved class of Japanese, with somewhat narrow florets for that type of flower, which adds rather than otherwise to its attractions. The colour is one of those soft yet deep yellows which is so much appreciated; the inside of the florets is a full shade deeper than the outer, therefore in inspection reveals two different tints of yellow. The foliage and growth remind me very much of Peter the Great. Another peculiarity of this variety is the manner in which the outer florets recurve and are pointed, rolling the two sides

inwards, thus revealing the inner surface of the florets, which exposes the richer yellow, the centre remaining as usual—incurved.

*C. Wagstaffe* is pure white, narrow florets, which are rounded at the edges; a full flower, and possessing much merit.

*Yellow Mdle. Lacroix* (Mr. Charles E. Shea) is a sport from the well-known white Mdle. Lacroix, which it resembles in every respect except colour, and that is a pleasing shade of light yellow. It will no doubt prove valuable for cutting.—E. M.

(To be continued.)

#### NEW AMERICAN CHRYSANTHEMUMS.

THE new varieties from America seen this autumn at the exhibitions, and in collections of Chrysanthemums in nurseries and gardens, prove conclusively that we may now look year by year to the American florists for some important introductions, for several of their recently introduced varieties are taking a very high position with us as exhibition flowers. Such flowers as W. H. Lincoln, W. W. Coles, Puritan, Ada Spaulding, Coronet, Lilian B. Bird, E. G. Hill, Mrs. E. W. Clarke, and others from the American raisers may well lead us to expect some other fine varieties this coming season.

Mrs. Alpheus Hardy for a year or two after its introduction was a disappointment this side of the Atlantic, but its necessary treatment seems now to be better understood, and some good blooms of it have been seen both at exhibitions and elsewhere. I saw some superb blooms in one collection of plants, and I was informed that the plants had been flowered in a little warmth, and that the cultivator intended growing a dozen or more plants of it next year. Louis Boehmer is disappointing so far. I saw at the Birmingham Show two good blooms, but differing in shade. I saw also at the Chrysanthemum Show at Bilston, near Wolverhampton, a box of blooms from a great Chrysanthemum grower in the south, the greater part of which had large green centres, and the flowers were flat and very uninteresting. I think this variety also wants a little warmth to develop it, and that like its predecessor, Mrs. Alpheus Hardy, it will yet be seen good another year. It has been caught in good condition this season, but I am speaking of its general character so far. Even at the New York Exhibition recently it was not favourably viewed. In a notice of the Toronto Chrysanthemum Exhibition the *American Florist* correspondent, in reporting of Louis Boehmer, observes, "I have yet to hear of a favourable opinion as to colour. 'Dull,' 'muddy,' 'no good for market,' seems to be the verdict. 'Big' and 'hairy' are its good points."

The *American Florist* of November 12th gives a lengthened report of the New York Chrysanthemum Show, the great Chrysanthemum Exhibition of America, and a very large number of seedling Chrysanthemums were staged. "Here," says the report, "was the cream of the whole exhibition. There were fully 600 of them, many being decided advances, and the following is a list of the most promising varieties, with awards received by several of them."

Edward Hatch, pink, awarded the Whitney cup and a certificate; also described as in grand form at the Philadelphia Chrysanthemum Exhibition, and as a truly magnificent flower. Colonel W. B. Smith, light orange, awarded the Bird cup. H. F. Spalding, old gold colour, awarded the Ladenberg cup and a certificate. E. Hitzeroth, yellow, awarded the Winslow cup and a certificate. Harry May, orange, awarded the Lanier cup and a certificate. Emily Ladenberg, deep Jacqueminot colour. (The H.P. Rose Général Jacqueminot is largely grown in America for its blooms). Awarded the Oelrichs cup and a certificate. Miss Mabel Simkins, large globular white, awarded the Clews cup.

The following fourteen varieties were awarded certificates:—O. P. Bassett, a fine commercial variety, form of Cullingfordi. C. B. Whitnall, crimson maroon. Maude Dean, La France colour. Roselyn, a shade of Syringa. Mrs. Wm. F. Dreer, a great improvement on Source d'Or. Roy, incurved pink. Marguerite Graham, creamy white, form of Henry Cannell. Mrs. W. J. Kimball, white suffused with pink. Hicks Arnold, orange, and very bright. Mrs. E. D. Adam, white (also at the Philadelphia Exhibition, and described as an immense white, with a faint lemon tint, and as very fine). Oasis, yellow. Bryden Junior, fine yellow. Joseph H. White, pure white, form of Elsie. Charles J. Osborne, bronzy yellow.

The following varieties are amongst those selected as acquisitions from the very great number of seedlings staged at New York:—Mrs. Robert Craig, pure white, globular. Mrs. Anthony J. Drixel, deep carmine. Mrs. Louis C. Madeira, splendid golden sphere. Mrs. Maria Simpson, yellow, an improved Coronet. Judge Hoith, a fine incurved silvery pink. Mrs. Dr. Williams, red and gold. Mrs. Robert C. Ogden, deep pink, reflexed. American Flag, an improved Marvel. Chicago, striped earmine and white. Christopher Columbus, a Japanese incurved. Mrs. J. M. Schley, shell pink.

W. A. Manda, resembling Mrs. Alpheus Hardy in form and hairiness, but the colour is a rich deep yellow. This variety is thus described in the *American Florist*, but not as being seen at the New York Exhibition.

Thinking that notes of these new American varieties may be of interest to your readers I send them on to you, but incurved and Japanese are evidently mixed up in the list, and we must wait the issue of the catalogue of our leading English growers to see what class these varieties belong to.

I note also that at this great Exhibition there are classes for twelve blooms each of certain varieties, cut with long stems and staged in one vase. There were in the class for whites eight exhibitors, and the



twelve blooms of Mrs. Alpheus Hardy which won the first prize were stated to be undoubtedly the finest twelve blooms of this variety seen in America.

A distinct feature of the New York Exhibition was the enormous display of cut blooms in vases, as will be seen from the following extract from the report of the Exhibition:—"The display of vases, with cut blooms with stems not less than 18 inches, was the most gorgeous feature of the Show. That this superiority over the flat displayed blooms was understood by the public was very evident from the crowds that surrounded the tables on which they were displayed. The tables were unfortunately too high to show the flowers to the best advantage. The vases provided for their reception were of the most beautiful and costly ware, and some idea of the magnitude of the display will be gained by considering that nearly 3000 of these valuable vases were used for the reception of Chrysanthemums, Roses, and Carnations, in addition to the glass ware used."

The question arises, Can we not do something in this way to add a new feature of interest to our Chrysanthemum shows, and also in other ways showing examples of the use of the Chrysanthemum in indoor decorative work? There is certainly a great formality about our present style of showing all Chrysanthemum blooms; and whilst it may still be desirable to keep to the old system for exhibiting the prize blooms, very much may yet be done to greatly interest so many who know little or nothing about the individual merits of a flower, but who do take an interest in any artistic work in floral decorations.—W. D.

#### SEEDLING CHRYSANTHEMUMS AT THE FLORAL NURSERY, MAIDENHEAD.

ON paying a visit to Mr. Owen a few days ago, I was surprised to find such a variety of English raised seedlings still flowering in his houses. Mr. Owen has the past year or two proved most successfully the possibility of raising beautiful new Chrysanthemums from seeds of his own growing, and on the day of my visit I found him busy distributing the pollen amongst his plants, which for seeding purposes are grouped together in a specially warmed and dry house. Out of one thousand seedlings of last year several were selected and grown this season to prove their true character. The variability of the Chrysanthemum from seed is very peculiar. For instance, a seedling from the incurved John Lambert was a beautiful yellow Japanese; and a seedling from Sarah Owen, probably crossed with some other kind, produced an incurved, which appeared likely to prove a rival to Pink Venus.

One of the best then in bloom was a Japanese seedling of this year. It carried but one flower of large proportions, about  $7\frac{1}{2}$  inches in diameter, the florets broad and incurved, twisted and hooked at the points. The colour is of a deep reddish bronze, the florets lined with yellow, with yellow tips. It was a seedling from Sarah Owen, and has been provisionally named Robt. Owen, and if on propagation it continues constant to its present form it will be a great acquisition in this class.

In Viscountess Hambleden we have a pink blush Japanese, already certificated, a seedling from Miss Anna Hartzhorn. Mrs. T. A. Spaulding is another Castle Hill seedling from E. Audiguier, rosy carmine with white ground, shading off to nearly white with age. William Tunnington, of which there were several flowers open, is a large and distinct Japanese of a reddish chestnut colour, with a golden centre, the back of florets lined yellow. Atlantic, a seedling from Mrs. Falconer Jameson, long strap-shaped florets, yellow splashed with red. Budget is another distinct seedling from Mrs. Falconer Jameson, reflexed, florets yellow and bronze, striped with crimson on the upper side.

Beauty of Castlewood and Sarah Owen are free seed-bearers, and several seedlings promise to be distinct, and will be grown another year. Yellow Avalanche, a seedling from Avalanche, good yellow shading to primrose with age, the growth and foliage the exact counterpart of its parent. Another seedling from the same is of a blush pink, the growth and habit similar to Avalanche. A beautiful white seedling of last year is very similar to Florence Davis, also having a slightly green centre before it is fully expanded; it promises to be even finer than that good variety as they appear growing side by side.

Of American varieties Miss Lizzie Cartledge was in good form, flower large, with long reflexed florets of a deep purplish-pink colour, with a silvery reverse; it has been certificated this season by the N.C.S. President Harrison and Mrs. F. A. Spaulding are two incurved Japanese, the latter bright nankeen yellow, the reverse of the florets rosy salmon, very distinct and pretty. Mrs. J. S. Fogg, a reflexed chrome yellow, with long florets and good dwarf habit.

Of incurved varieties Matthew Russel, a sport from Princess of Wales, was certainly distinct from Mrs. Coleman as seen growing alongside that variety, the lower part of the bloom being of a deep rose colour, with a pale yellow centre. Rivelyn, a sport from Mrs. N. Davis, which originated here, is another of somewhat similar colour, golden bronze, with a shade of rose, centre of flower clear yellow.—C. H.

#### DATES AND SCHEDULES FOR 1892.

FROM the advertising columns of the Journal I learn that several societies have already fixed the dates of their exhibitions for next year. This is a step in the right direction, as it affords other societies an opportunity to make such arrangements as to avoid clashing with their neighbours in the fixture. Nothing is gained by deferring the settlement of dates for some months after the new year has been ushered in, as I note some societies do. I shall hope to hear of the early issue of the prize schedules which would be a commendable step and one to be

appreciated by exhibitors, especially where any society contemplates making great changes in the composition of their prize list. Cultivators then have no excuse to make if their arrangements are not satisfactory when the exhibition season of 1892 comes round. I have seen classes scantily filled where previous schedule arrangements had been much altered and no notice given of such to the regular exhibitors until within three or four months of the date when the prize lists were issued. How can exhibitors possibly cope with such dilatory proceedings on the part of committees? The principal classes may necessitate obtaining additional varieties of Chrysanthemums to compete on equal terms with others. I am aware that some societies are dependent upon circumstances over which they have no control before they can allot the amount of their prizes. Where committees are not hampered in this way they will earn the thanks of competitors if they make early arrangements to issue their prize list, and they will themselves have the satisfaction of knowing that, should failure occur, the fault is not in the late issue of their prize schedules.—E. M.

#### CHRYSANTHEMUM MRS. SIMPKINS

THIS is a peculiar variety, and though it is not likely to possess much value to exhibitors, it will prove an interesting addition to many



FIG. 94.—CHRYSANTHEMUM MRS. SIMPKINS.

collections where Chrysanthemums are grown for home use. When shown at the December meeting of the Royal Horticultural Society by Mr. Simpkins, gardener to R. I. Measures, Esq., Cambridge Lodge, Camberwell, it attracted some notice, and an award of merit was granted for it. The blooms are globular in form, of the size shown in the engraving (fig. 94), the florets being pale lemon yellow, very narrow, and curiously cut and forked near the points. It seems to be of compact habit and free.

Mr. Simpkins writes:—"This Chrysanthemum mentioned was not sent to us direct, but we had it with bulbs and Japanese Maples from Mr. William Gordon of Twickenham. The flowers have been very



much admired both last year and this year; hence we decided to send it to the last meeting. The plant sent had been in rather a warmer house than I like, but with care it may be had at its best about Christmas."



**ROYAL HORTICULTURAL SOCIETY'S MEETINGS IN 1892.**—The following are the dates of the Committee Meetings and Shows for the coming year:—January 12th. February 9th, annual general meeting. March 8th and 22nd, April 12th and 19th (Auriculas and Primulas). May 3rd, 17th, 25th, and 26th (Temple Show). June 7th and 21st (Rose Show). July 12th and 26th (Carnation Show). August 9th, 23rd, and 24th, Conference and Exhibition at Chiswick, Begonias, Apricots, and Plums. September 6th and 20th. October 4th and 18th. November 1st and 15th. December 13th. The titles of lectures, &c., will be published in the arrangements, to which a list of Fellows will be added.

— **THE MIDLAND COUNTIES CARNATION AND PICOTEE SOCIETY** has just issued a report of their proceedings for the current year, giving a full list of the winners, together with the names of the flowers each exhibited at the August Show in the Botanical Gardens, Birmingham. The report is admirably printed, and is a neat useful little book for amateurs. We are informed that the Committee have already met to prepare the new schedule for 1892, which will shortly be issued.

— **HORTICULTURAL CLUB.**—The usual monthly meeting was held at the Club rooms, Hotel Windsor, on the 8th inst., when there was a good attendance of members. The chair was occupied by Mr. John Lee, and there were present the Rev. W. Wilks, the Rev. F. H. Gall, Messrs. Soper, H. J. Pearson, C. E. Pearson, A. A. Pearson, Cousens, Druery, Cheal, &c. The discussion was opened by the Rev. W. Wilks, who gave a most interesting lecture on fruit trees in pots, and in order to illustrate it gave a description of what he had done himself. He first described the house which he had built for the purpose; he then described the soil which he used; and also the manner in which the potting was done, how the trees were treated during the growing, blooming, and fruiting season, and how they were treated afterwards. In fact, it was thoroughly practical. There was not a point connected with their culture that was not explained; and in the interesting discussion that followed it was more than once stated that it would be impossible for anyone following these instructions to fail. It was also most regretted that owing to its having been delivered from notes it was impossible to give a report of it.

— **SCOTTISH PRIMULA AND AURICULA SOCIETY.**—The annual general meeting of the Scottish Primula and Auricula Society was held recently at 18, Reform Street, Dundee, Mr. J. D. Ker, Douglasfield, in the chair. After the election of office bearers and a Show Committee the Hon. Secretary read the Committee's report on the Exhibition which took place in May last. The report stated that, notwithstanding the inclemency of the weather in spring, the quality of the exhibits forward was quite equal to that of former Exhibitions, and that, taking the Show as a whole, it was perhaps the best the Society has yet held. The Treasurer then read his report, which, although the attendance at the Exhibition and the subscriptions were somewhat less than in 1890, showed a good balance at the credit of the Society. After some conversation Mr. W. Straton, Annfield, Broughty Ferry, agreed to continue to act as Hon. Secretary and Treasurer for another year. Hearty votes of thanks were passed to private and nurserymen exhibitors, and to the Chairman. The date of next Show was fixed for May 6th and 7th, 1892, to be held in Dundee.

— **THE BIRMINGHAM GARDENERS' ASSOCIATION.**—At a meeting on the 2nd inst., Mr. Charles Bick, gardener to Walter Chamberlain, Esq., read a paper on Evergreen Trees and Shrubs for Town Gardens, speaking of the kinds he had from his long experience of Birmingham found to do best; and on the 9th inst. Mr. John Bluck, gardener at The Henburys, Birmingham, read a paper on the Camellia, its varieties and cultivation, and described his treatment for several years of the famous specimen Double White under his care; giving also a list of a few select varieties, and the cultivation of Camellias generally.

— **THE MIDLAND COUNTIES PANSY SOCIETY.**—With a small balance in hand from the first Exhibition, held in June last, the Committee have decided upon issuing the schedule very early in the new year, with more open classes added, and a goodly list of extra prizes offered by friends. The Society appears to be established on a strong footing, and Mr. W. Dean, Sparkhill, Birmingham, is again the Hon. Secretary.

— **A HINT TO CONTRIBUTORS.**—I have previously stated how desirable it is that correspondents should name the district to which their remarks apply. I was much pleased with the article on Roses by "D. W. C." on page 479 until I came to the end of it. He says "here" Roses are cherished, &c. What I am often at a loss for is "where" the "here" is. If only the county were named it would greatly add to the value of such communications. I trust you will be able to give this hint to your able correspondents.—A. M. STANLEY, *Hull*. [We often supply the omission in question, but failed to add Midlands to the communication referred to.]

— **RAINFALL RETURNS.**—I am just preparing to send blank forms to all persons that are known to me as keeping a regular and accurate return of the fall of rain. I know that there are some readers of the *Journal of Horticulture* who do not yet help me. I know it because sometimes they mention the depth of rain, and yet give vague addresses and sign only with initials, and of course it is impossible for me to communicate without a full address. We are just finishing an exceptional year. I should like my account of it to be as nearly perfect as possible, and therefore I shall be glad if every reader of this paragraph who has a rain gauge and attends to it will send me his name and address, so that I may send him suitable forms.—G. J. SYMONS, 62, Camden Square, London, N.W.

— **HELIANTHUS DECAPETALUS** is without a doubt the most free flowering of the whole family, commencing in July and continuing till the end of September. No plant that I know in the whole catalogue of hardy plants increases as fast as this variety of Helianthus, or, as some call it, *Heliopsis laevis*. It grows about 6 feet high and the stems are particularly wiry and much branched at the top. The pale yellow flower heads with dark centres are cupped in form, which is perhaps the only reason why they are not so valuable in a cut state, being more difficult to arrange than those which have recurring florets.—E.

— **TO PRESERVE FLOWERS.**—To preserve delicate flowers take very fine sand, wash it perfectly clean, and when dry sift it through a fine sieve into a pan. When the pan is deep enough to hold the flowers in an upright position take some more sifted sand and carefully cover them. A spoon is a good thing to use for this, as it fills in every chink and cranny without breaking or binding the leaves. When the pan is filled solidly leave the flowers to dry for several days. It is a good plan to warm the sand in the oven before using it, as the flowers will then dry more thoroughly. Pansies preserved in this way will keep their shape and brilliancy of colour all the winter. Ferns when preserved in this way have a more natural look than when pressed, and the Maiden-hair Fern looks almost as well as when it is freshly gathered.—(*International Journal of Microscopy and Natural Science*.)

— **JAPANESE PINKS (DIANTHUS HEDDEWIGI)** are not cultivated nearly so much as they ought to be. They provide an extensive range of colouring, from pure white to intensely dark shades of crimson. Those who are fond of flaked and striped flowers may have them to their heart's content if they cultivate approved forms of Dianthus. The plants are dwarf, from 9 inches to 1 foot high, are well suited for massing; in fact, that is about the best style of arrangement. If anyone objects to the level compact mass when so grown in a bed by themselves this is easily obviated by planting two or three *Acacia lophantha*, *Grevillea robusta*, or *Sonchus laciniata* to give relief. Single or double flowers can be had at will, therefore there is no reason why those who prefer one kind to another may not have their choice. To my mind the single forms are much the best, and are more lacinated than the double variety. Where many persons make a mistake in cultivating these Pinks is in the spring, giving them too much heat; the plants are liable in that way to be weakened, and do not give the same satisfaction as when sown in a cold frame about the middle of March, pricked off into rich sandy soil, grown sturdily, and planted out towards the end of May with a good ball of soil attached to their roots. In this manner the plants receive no check, but start freely into growth, and with a reasonable amount of sun heat they commence flowering early, and continue well into the autumn.—E. M.



— THE ROYAL CALEDONIAN SOCIETY.—Mr. Charles Stewart, Hon. Secretary of the above Society, informs us that the following are the dates of the Shows of this Society, to be held in 1892 :—6th and 7th April, 13th and 14th July, and 7th and 8th September.

— GARDENING APPOINTMENTS.—The following appointments have been recently made through Messrs. J. Laing & Sons, Forest Hill :—Mr. A. Porteous as head gardener to E. H. Watts, Esq., Devonhurst, Chiswick, and Mr. Carpenter as head gardener to Mrs. Dewhurst, Highfield, Eastbourne.

— THE following are the dates of the BRIGHTON AND SUSSEX HORTICULTURAL ASSOCIATION'S SHOWS FOR 1892 :—Spring Show, March 29th and 30th ; summer Show, June 29th and 30th ; autumn Show, August 24th and 25th ; Chrysanthemum and fruit Show, October 25th and 26th. Mr. Edward Carpenter, 96, St. James's Street, Brighton, is the Secretary.

— SPIRÆA CALLOSA is one of the best of the shrubby species of a rather extensive family. Its rosy red terminal flat corymb-like flowers are showy during the latter part of the summer as they are earlier in the year, which is an advantage, as it does not come into flower all at once and then remain flowerless for so long again. Another advantage in this Spiræa is that it may be safely hard pruned every year, therefore it can be kept low and useful as a shrubby plant. Even then it does not fail to flower profusely every year.—S.

— THE DAHLIA.—In your last issue (December 10th, 1891) reference is made in a very interesting article by "J. R. S. C." to the introduction of the Dahlia into this country, "The first perfect blossom is said to have been raised in the French garden of Holland House." It may be interesting in this connection to recall the graceful lines addressed to his wife about 1844, by the Lord Holland of that day :—

"The Dahlia you brought to our isle  
Your praises for ever shall speak  
'Mid gardens as sweet as your smile,  
And in colours as bright as your cheek."

—A. C.

— GERMANIA CARNATION.—In conversation with a leading Carnation grower the remark was made that all yellow varieties were wanting in scent. When I reached home I tried Germania and induced others to do the same, and it was found to possess a distinctly sweet primrose odour. I have seen other yellow Carnations recommended as the best, but in my own experience no variety comes near this one. It is sweet-scented, the flower is of the most perfect form, of free flowering habit, strong growing, easy to increase, and as easy to cultivate as the commonest. True, the shade of yellow might be somewhat more intense, but as we have not any dark yellow near Germania in any other good quality, we may consider ourselves very well off in possessing a large flowering stock of this first class variety.

— I HAD sent me a few seeds of the LETTUCE "BLOND BLOCK-HEAD," about which there was some discussion in spring. Those who are fond of a large Cabbage Lettuce will find this a good one. It is a large grower, is a very pale green, and stands heat well. I made one sowing only, and that for trial. It appears to be a much enlarged Drumhead inclining to the Neapolitan type. I do not like the flavour so well as the small growing Cabbage varieties, nor nearly so well as a good Cos, but for those who have a liking for the class, and to others who have a large demand, no doubt, it is most useful, and I should be inclined to place it among the best.—B.

— PRINCIPAL J. L. THOMPSON, of the Hawkesbury Agricultural College, New South Wales, has no doubt that the climate and much of the soil of Australia are well suited for the CULTURE OF THE OLIVE. All that is needed, he thinks, is an adequate supply of labour. He himself has been very successful in preserving green Olives ; and in a paper on the subject in the August number of the *Agricultural Gazette* of New South Wales he gives the following account of the system adopted. The Olives are very carefully picked from the trees when about full grown, but perfectly green. They should be handled like eggs. If they are bruised in any way, they will become black and decompose. In the green state Olives contain gallic acid, which gives them an acrid taste. To remove this they are first of all steeped in alkaline water, made either of wood ashes, lime water, or washing soda ; of the latter, about 3 or 4 ozs. to the gallon of water. As soon as the lye has penetrated through the pulp, which is usually in from eight to ten hours, they are put into clean water and steeped until all acrid and alkaline taste has been removed. During that time the water is changed every day. They

are then put into brine, composed of 1 lb. of salt to each gallon of water, and kept carefully covered with a thick linen cloth, for if exposed to the air they will turn black. They are finally put up in air-tight jars.—(Nature.)

— SCARCITY OF VIOLETS.—It is not often that Violets are so scarce during a mild autumn as they have been, and still are, this season. We have several hundred strong plants, some planted this year, and still more two years ago, and principally of the Czar, but all we get from these are three fairly large bunches every week. Not only do the Russians fail to flower satisfactorily, but the Marie Louise in pits is also less free than usual, and these failures are general in this neighbourhood. Violets, though moisture-loving plants, evidently do not like too much of it. More sunshine than we had last summer is needed to develop good foliage and to build up strong crowns, and I am afraid that the plants will cut up badly in hard weather.—M. H.

— HÆMANTHUS KATHARINÆ.—Though this plant may grow and even flower in a stove it acquires much finer proportions, forms larger and finer heads of its brilliant flowers, and increases much more quickly when grown all the year round in a cold house from which frost is excluded, but no more, and in which Indian Azaleas and Camellias would ordinarily thrive. I had clear evidence of this when recently visiting the Royal Botanic Gardens at Glasnevin, near Dublin, when I was shown by the Curator of that most interesting and well cared for establishment an exceedingly fine specimen of the fine form of this plant, known as H. Katharinæ superbus (which I had presented to the Gardens some three or four years previously), which though grown altogether in the cold house for the previous year was in every respect finer than I had ever seen it when grown in a stove.—W. E. GUMBLETON.

— RAINFALL IN HAMPSHIRE.—The continuous rain of the past week or two has brought the total above the record of the last eight years. The greatest amount registered in any year during that time was 34.8 inches in 1886, when rain fell on 141 days. At Droxford, a village situated 1½ mile east of Swanmore, and lying in a valley, I find in 1882 36.10 inches was registered, this was before a register was kept here. I also find that Droxford usually registers slightly in advance of what we do here, more thunder showers appearing to fall in the valleys than on the hills, the altitude of Droxford being but 180 feet, while this station is 390 feet above sea level, therefore we may calculate that the previous highest total at Swanmore was in that year also. Even then we seem likely to considerably surpass that ; in fact, we have up to December 8th registered 35.66 inches. During the night of December 1st in nine hours 1.15 inch rain fell. Of 342 days 141 have been wet, the present year being remarkable for excesses in the number of days, wet and dry continuously. On strong land it has now become serious for farming operations, but for planting trees of any kind we have not had too much. It is surprising in our heavy soil how little water is to be seen on the surface or anywhere in the soil. Land not previously having the surface broken for some few months is in splendid order for working, owing no doubt to the presence of so many flint stones in the soil.—E. M.

— AT a large gathering of the CROYDON GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT SOCIETY recently Mr. W. Gunner presided, and Mr. Joseph Cheal delivered a most instructive lecture on "Our Conifers: Their History, Introduction, Uses, and Something of Their Native Habitats," illustrated with map, photographs, and drawings. He said at the beginning of the present century no more than twenty varieties were known in England, and now we have so many that we hardly realise that such rapid progress should be made. He first mentioned the sorts that are indigenous to this country, and concerning the Scotch Fir (yellow deal), it was also to be found in Norway and Asia, and the Spruce Fir (white deal) grew in vast forests in Sweden, Russia, and he had been in large forests of it in Norway, where he walked for days and days in stillness and dense shade ; and when on reaching the clearing he saw the Norwegian sunset over mountains of snow, it was such a truly magnificent sight that he should never forget it. From these forests alone 85,000,000 cubic feet of timber was annually cut. The root fibre is used for making cords and coarse ropes. He paid graceful tribute to the memory of David Douglas, to whom we are indebted for introducing so many valuable Conifers. It was he who first sent over *Abies Menziesii* from the Pacific coast, and the one named in his honour *A. Douglassii*. This is one of the best timber trees, being so full of resin. He mentioned the flagstaff at Kew in the Royal Gardens, which was cut from the Douglas Fir. Its height is 59 feet, 22 inches in



diameter, measuring 67 cubic feet, and weighs 3 tons. Turpentine is obtained from the Silver Fir (*Picea grandis*), which bears heavy cones. Arbor Vitæ wood made excellent posts and fences, lasting for fifty years. He dealt fully with the historical Cedar of Lebanon, *Araucarias*, *Cupressus*, *Junipers*, *Larch*, *Wellingtonia*, and *Yews*, &c. There was a good discussion, and several points of great interest were touched upon. A hearty vote of thanks to Mr. Cheal for his lecture was accorded. At the close of the meeting the members resolved to wind up the season by having a dinner, and they invited the horticultural and the *Chrysanthemum societas* to amalgamate with them for the purpose.

### ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.—December 8th. Present: Mr. Morris in the chair, Mr. McLachlan, Mr. Michael, Dr. Müller, Rev. W. Wilks, Dr. Scott, Prof. Oliver, Rev. G. Henslow, Hon. Sec.; and M. H. de Vilmorin (visitor).

*Primula Forbesi*, Franchet.—M. de Vilmorin exhibited growing plants and cut blooms of this new species. It was discovered by Abbé Delanay in the province of Yunan, China, growing wild in marshes and Rice fields, where it is practically an annual. The plants were raised from seed received from the Abbé, and under cultivation proves to be a most perpetual bloomer. It much resembles *P. obconica* in the succession of flower stems, but otherwise is quite unlike it in appearance. The flower stems are very slender, and bear several (3-6) whorls of flowers, which, individually, resemble those of *P. farinosa*. It has produced but few seeds as yet, possibly requiring a high temperature. It does, however, well in a cool house. The specimens appear to be all of the long-styled form, which may possibly account for the paucity of seed. The growing plants were presented by M. de Vilmorin to Kew, and to the Horticultural Society. A vote of thanks was given by the Committee to M. Vilmorin for his interesting communication.

*Thelephora* sp. (?).—Dr. Müller exhibited what appeared to be some species of this genus growing round the stems of *Rhododendrons* in peaty sand. He thought it appeared to be parasitic. It was forwarded to Kew for further examination and report.

*Fog and Rain*.—Prof. Oliver asked M. de Vilmorin if he had experienced in Paris any ill effects of fog comparable to those familiar to growers in the neighbourhood of London. He replied in the negative, as a typical yellow fog is unknown in Paris. He observed that was sometimes a well-marked local increase of rain induced to fall, through condensation brought about by trees.

*Narcissus bulbs attacked by Merodon*.—Mr. G. Lee of Clevedon, sent bulbs with this well-known pest. The only methods of destruction are either to cut out the portions containing the grubs; soaking the bulbs in water to drown them; or else, by destroying the bulbs altogether.

*Benthamia fragifera*, fruit.—Mr. R. G. Lakes of St. Austell, Cornwall, sent some fine ripe specimens of the fruit of this tree.

*Citrons*.—Mr. P. Crowley, F.L.S., forwarded two fine fruits of *Citrus medica*, grown at Waddon House, Croydon.

### EXPERIMENTS WITH POTATOES.

MR H. CHANCELLOR of Chessington Hall, Surrey, occupies a recognised position as a scientific and practical cultivator of Potatoes and other crops. He derives much pleasure in conducting experiments, and the information he has thus gained has no doubt been turned to profitable account. His early training at the Agricultural College, Cirencester, where he was a successful student and prize essayist, impressed him with the importance of great exactitude in his various trials, and of these he keeps careful record. This year he tried the Bordeaux mixture as a disease preventive and found it beneficial; he also tried tubers of different sizes for planting, as well as the effects of artificial manures, and has favoured with the following report of some of his experiments during the present year:—

"The past season has proved to be quite exceptional and particularly unfavourable for testing experimentally the value of any special plan of cultivating the Potato crop. This applies in a marked manner to the application of different artificial manures, and in trying to ascertain the relative advantages from the use of minerals and nitrogenous manures together and separately I have been met with not a few of those contradictory results which are very generally found in any series of experimental plots. The heavy gales and rains which prevailed during the latter half of August caught the main crop of Potatoes in full vigour of growth. As the outcome of such violent commotion among the haulm, accompanied by a very low temperature and excess of moisture, the hitherto luxuriant foliage quickly merged into a mere forest of naked stems. This was very generally the case, the gales extending throughout the length and breadth of the country, and though the tubers continued to swell somewhat while the haulm kept green, still the Potato plants were unable to derive much further benefit from the artificial dressings lying at their feet. In venturing to give you a statement of returns from some of my experimental series, I would remark that I scarcely remember a season in which I have noticed so little proportionate gain in produce from the use of artificial manures. It might reasonably be expected that highly forced vegetation would suffer from such a sudden visitation of ungenial weather in this critical

stage of growth more than that growing under normal conditions. So, in all plots heavily treated with nitrate of soda or sulphate of ammonia, the returns are not at all commensurate with the increased outlay.

#### INFLUENCE OF SETS.

*Variety, Beauty of Hebron (early), all Whole Sets.*

	YIELD.
One rod, planted with 80 sets, averaging 1 oz. ...	115 lbs.
" " " " " 2 oz. ...	122 "

*The Bruce (late).*

One rod planted with 72 sets, averaging ½ oz. ...	112 "
" " " " " 1 oz. ...	135 "
" " " " " 1½ oz. ...	142 "
" " " " " 2 oz. ...	146 "

"The larger sized sets showing uniformly a better yield than the small. The shortness of the period of growth this season was against the smaller sets, the plants starting somewhat weaker. Some few rods were lifted, planted with small baker's chats (ninety sets per rod) and weighed against others planted with ordinary full seed size (seventy-two sets per rod), and in all cases the weight per rod was the same, and the proportion of ware to middings in the produce agreed.

#### INFLUENCE OF SOIL.

*Soil Sandy Loam.*

*Soil Heavy Loam.*

	YIELD.	YIELD.
Beauty of Hebron (early) 20 sets (2 lbs.) ..	44 lbs.	36 lbs.
Jeannie Deans (early) " " ...	53 "	44 "
Magnums " " ...	49 "	41 "
The Bruce " " ...	51 "	41 "
Reading Giant " " ...	52 "	47 "
Her Majesty " " ...	53 "	41 "
The Major " " ...	50 "	38 "

"The Potatoes were planted rather earlier on the light soil, and the weather favoured this description of land.

#### INFLUENCE OF MANURES.

*Mineral Superphosphate and Basic Slag (Phosphate Powder) Rate per Acre.*

	PRODUCED.
Mineral superphosphate, 5 cwt. 1 rod (80 sets) ...	112 lbs.
Basic slag, 5 " " " ...	128 "
Mineral superphosphate 5 " " " ...	140 "
and nitrate of soda, 1½ " " " ...	128 "
Basic slag 5 " " " ...	116 "
and nitrate of soda, 1½ " " " ...	106 "
Nitrate only, 1½ " " " ...	
No artificial, " " " " ...	

"Basic slag shows single-handed a gain over superphosphate, but when nitrate of soda is added the positions are reversed, and the basic slag shows better results than nitrate of soda.

"In another series gypsum showed a good return, but salt was uniformly unsatisfactory, as might be expected this wet season. Sulphate of potash alone very unsatisfactory, but with nitrate of soda better. Sulphate of magnesia well repaid outlay (slight cost). Basic slag alone generally gave better return than mineral superphosphate. Bonemeal about equal to basic slag.

*Nitrate of Soda v. Sulphate of Ammonia.*

	RATE PER ACRE.	YIELD.
Two rods lifted, nitrate of soda, ... 1½ cwt. ...	283 lbs.	
" " " " " 3 " ...	251 "	
" " sulphate of ammonia, 1½ " ...	276 "	
" " " " " 3 " ...	241 "	

"Soil, very stiff clay, variety Magnums.—The heavier dose of both salts showing a less yield of tubers. The foliage on the 3 cwt. plots was over-luxuriant, and suffered from heavy gales and rains. A longer and drier season and the heavy dressings would probably have given the higher returns.

*Nitrate of Soda v. Sulphate of Ammonia with Minerals.*

	RATE PER ACRE.	YIELD.
One rod, 70 sets, 2 basic slag		
2 superphosphate		
1 sulphate potash		148 lbs.
2 nitrate of soda		
One rod, 70 sets, 2 basic slag		
2 superphosphate		
1 sulphate potash		139 lbs.
2 sulphate of ammonia		

*Nitrate of Soda, Sulphate of Ammonia, and Soot.*

2 cwt. nitrate of soda, 70 sets (giants), produced ...	150
2 cwt. sulphate of ammonia, 70 sets (giants), produced ...	130
40 bushels of soot (sown in drills when planted) ...	146

"It will be seen that nitrate of soda has given a better return than sulphate of ammonia throughout this last series. The great difference in value between these soluble salts is also a consideration. Many of our leading growers of Potatoes maintain that sulphate of ammonia is



better suited to carry through the crop, and that the tendency to die off prematurely is lessened by applying it in place of nitrate of soda. This season, however, I have not found this to be the case.

"In the above series of experiments the cost of the different dressings

never reached a full age, and are consequently more or less (according to variety) wanting in flavour and general cooking qualities. The difficulty of raising the crop this autumn has probably beaten any previous record, especially on low lying and tenacious soils. Very



FIG. 95.—JAPANESE CHRYSANTHEMUM VIVIAND MOREL.

has not been entered into. The calculation is, however, easily made. As previously mentioned, the season has been far too capricious for placing much value on results. The growing period was far too short. As a natural result of this sudden cessation of growth the tubers have

many tubers are soft and quite unfit for keeping. It is to be feared that very many "elamps" or "pies" will be found unsatisfactory in the spring. The early varieties have already gone off very badly from disease and excess of moisture."



## SEASONABLE HINTS ON FLORISTS' FLOWERS.

**AURICULAS.**—So far as the winter has gone nothing could be more different from last winter, and consequently the thoughts of the grower ran in a somewhat different channel at this time last year. The second week in December the garden was covered with snow, the ground frozen hard, and our frames containing our favourites closely matted down, while those growers who had the advantage of fire heat kept their fires going. I say the advantage, because although I do not at all agree with forcing Auriculas so as to get them in time for exhibition, I think that in very severe weather, as well as in damp weather, it is an advantage to have the power of putting on a little fire heat. Last year our pots were frozen hard at this time, and although the Auricula is a hardy plant, yet the high breeding of the edged varieties makes them unable to endure what their Alpine ancestors pass through unscathed; we cannot (at least I cannot) grow them in the open. I have tried it with such strong-growing varieties as Colonel Champneys and Traill's Beauty, but it was a failure. Like many other alpins, the alternations of heat and cold, moisture and dryness, are too much for them; and besides the first hour of rain after the bloom opens completely destroys its beauty. Hence we must always grow them under cover, not only protecting the plants, but also saving the blooms from the injurious effects of frost, which is apt to distort the flowers. What we have to contend with this season, however, is not cold but moisture.

There is an expressive word used about here by our rustics, "peart," I suppose a corruption of *pert*. When the corn looks up straight green, they say it looks very "peart." This is the best word I can find to apply to the appearance of my small collection of Auriculas. I have never at this season seen them with so much foliage, the old leaves not having yet died off, and consequently instead of at this time having simply a black appearance, they are really good looking plants. One ought not to prophesy, but as I have all along thought that we should have a mild winter, so I think we shall have an early bloom of Auriculas. The great enemy to be avoided now is damp. When I went to my small pit the other day I found that the pots were just as if they had been dipped in water. Air was, therefore, more freely given, although unfortunately that air was laden with moisture. It will be necessary to carefully examine the plants now, take off all dead leaves, examine for the presence of woolly aphis round the collar (it is of little consequence elsewhere), examine the foliage for green fly, which is likely to appear during such mild weather, and if present carefully brush it off with a small brush. I find at this season of the year this is sufficient, and there is no need of fumigation. There must be for the present a withholding of water; it is not well for the plants to get thoroughly dry, but in a state just short of that is the best for them. Of course drip must be carefully looked after; there is nothing more fatal to the well-being of a plant, and when once the soil has become waterlogged and sour there will be no hope for the plant but repotting. Prevention is better than cure, and when a drip is discovered the pot should be at once removed to some other place in the pit or frame. I find this is more readily done in the pit, and have for this and other causes removed mine to the pit earlier than I have hitherto done.

**CARNATIONS AND PICOTEEES.**—The disastrous season of 1891 is not likely to be repeated this season, and, as in the case of the Auricula, it will be necessary to guard against damp. This shows itself on these flowers in spots on the leaves, which destroy their tissue, deprives the plant of its proper amount of nutriment, and if unchecked ultimately kills it. To prevent this it is necessary to give all the air possible, and when it does appear it is best to dust the plants with sulphur. As yet I see no appearance of it in the few plants I have. Those which were planted out in beds have so far had a favourable time. The one precaution necessary is to see that the plants are not dragged about by worms.

**GLADIOLUS.**—Of course the harvesting of the corms ought now to be completed, and they should be safely housed where they are free from frost. I do not, as I have often said, advocate the storing of the roots in bags, as there is a sufficient amount of moisture in the roots to encourage growth where the roots are in contact, for a very little induces them to put out roots, and this weakens them, so that I recommend that they should be laid on trays, made not solid but in strips. They may be fitted into a stand similarly made. By this means there is no contact and the corms get plenty of light and air. I grieve to say that my harvest is a very poor one, from what cause I know not, but I have lost more than one-half of my collection, and of those which I have saved many are very small. I had all mine in one part of my garden, and have, I suppose, shared the fate of those who put all their eggs into one basket. The portion of the garden is damp, and it may be that this moist season did not suit them, or it may be that there is now too much manure in the beds. I have endeavoured to remedy this defect for a year by taking out a good deal of the soil, and putting in a good quantity of turfy loam, and I have also prepared a bed in another part of my garden so as to have a double chance. Last autumn I lifted my fine corms, so that I imagine the season must have a good deal to do with it.

**PANSIES.**—The moist season has suited these very well. My plan is after they have bloomed to plant them out and then in autumn to divide them and pot them. I find this answers my purpose much better than taking cuttings, and I see no difference in the size and quality of the flowers produced by these plants. They are now looking remarkably healthy, and all that they will require will be to be kept free from damp, and should any mildew appear, which is, however, not likely at this

season of the year, they should be dusted with sulphur. Of course, air should be given at all possible times to the frames where they are wintered.

**RANUNCULUS.**—The Persian varieties are quietly lying in the autumn quarters, where they will remain for a couple of months longer; but so wet has the ground been that I have not yet planted the Turban varieties, which, however, I do not or cannot class as florists' flowers. They ought to have been planted in the middle of last month, but it has been simply impossible, and I shall have now probably to defer it to the spring.

**ROSES.**—The trees look remarkably well. The Teas are quite green, and showing an occasional bloom very different from their appearance last year at this time. If it has not been already done, I would advise the thinning out of the old flowering wood—in fact, treating them much in the way that we treat Raspberries; this gives free access of air and light, and saves work in the spring, when there is a good deal of all kinds of work to be got through. Nailing, if not finished, ought now to be completed, first drawing up some earth to the collar of the plant and then placing the manure over it. Under the present system of growing Roses, *i.e.*, as dwarfs, I do not think there is any need of protection even for Teas. It very often does more harm than good, and it is only in such very exceptional seasons as the last that losses for want of protection occur.—D., Deal.

## PRUNING VINES.

My experience with Muscat of Alexandria differs from that of Mr. Dunkin on page 489. For twelve years Vines under my charge have been subjected to close spur-pruning, and I think the bunches this season were larger and better than in any previous year. This was certainly the case near the base of the rods, and the crop is always towards the base than near the points of the canes. I attribute our success in this respect to a close method of pruning the leader in its early stages of growth. The first year only three buds were left above the lower wire for a pair of side shoots and a leader. The next year only a few more than that number were left. I think more young Vines are ruined by faulty pruning, especially the first and second year, than anything else. People seem to be too anxious to cover the root or trellis too quickly, particularly if the Vines are expected to give a full crop of fruit for twenty or thirty years. I am, however, straying somewhat away from the point.

I believe securing a full crop of this variety depends more upon how the wood is ripened every year than upon any method of pruning. If two and sometimes three shoots are allowed to grow from one spur I do not wonder at their requiring pruning on a method which is not close spur-pruning, but if one growth only is taken from each spur and the laterals reasonably restricted I think an annual crop of fruit will be guaranteed, and not very small bunches either. I am a great believer in training the summer growth of Vines thinly, but some gardeners do not practise this plan. My experience with Lady Downe's is just the same in every respect as that quoted for Muscat of Alexandria.

I quite agree with Mr. Dunkin in his advice about Gros Guillaume. For eight years this variety was pruned on the close spur system without a failure, the two following seasons were. Last autumn we tried the long spur plan, with the result that this year we had larger bunches than at any time previous. I suppose it was the extreme vigour the Vine contained which was the means for the first eight years of producing such good results, and as this became exhausted the bunches grew less, until the Vine failed to give a crop.—E. M.

## RESULTS OF EXPERIMENTS AT ROTHAMSTED ON THE QUESTION OF THE FIXATION OF FREE NITROGEN.

FROM the results of the experiments of Boussingault, and also of those made at Rothamsted under conditions of sterilisation and inclosure more than thirty years ago, Sir J. B. Lawes and the author had always concluded that at any rate our agricultural plants did not assimilate free nitrogen. They had also abundant evidence that the Papilionaceæ, as well as other plants, derived much nitrogen from the combined nitrogen in the soil and subsoil. Still, they had long recognised that the source of the whole of the nitrogen of the Papilionaceæ was not explained; that there was, in fact, "*a missing link!*" They were, therefore, prepared to recognise the importance of the results first announced by Prof. Hellriegel in 1886, and they had hoped to commence experiments on the subject in 1887, but they had not been able to do until 1888. Those first results showed a considerable formation of nodules on the roots, and coincidentally great gain of nitrogen, in plants grown in sand (with the plant-ash) when it was microbe-seeded by a turbid watery extract of a rich soil.

In 1889, and since, they had made a more extended series. The plants were grown in pots in a glass house. There were four pots of each description of plant, one with sterilised sand and the plant-ash, two with the same sand and ash, but microbe-seeded with watery extract, for some plants from a rich garden soil, for Lupins from a sandy soil in which Lupins were growing luxuriantly, and for some other plants from soil where the particular plant was growing. In all, in 1889 and subsequently, they had grown in this way four descriptions of annual plants—namely, Peas, Beans, Vetches, and Yellow Lupins; and four descriptions of longer life—namely, White Clover, Red Clover, Sainfoin, and Lucerne. Enlarged photographs of the above ground-



growth, and of the roots, of the Peas, the Vetches, and the Lupins, so grown, were exhibited. Without microbe-seeding there was neither nodule-formation nor any gain of nitrogen; but with microbe-seeding there was nodule-formation, and, coincidentally, considerable gain of nitrogen.

As, however, in this exact quantitative series, the plants were not taken up until they were nearly ripe, it was obvious that the roots and their nodules could not be examined during growth, but only at the conclusion, when it was to be supposed that the contents of the nodules would be to a great extent exhausted. Another series was, therefore, undertaken, in which the same four annuals, and the same four plants of longer life, were grown in specially made pits, so arranged that some of the plants of each description could be taken up and their roots and nodules studied at successive periods of growth: the annuals at three periods—namely, first when active vegetation was well established, secondly when it was supposed that the point of maximum accumulation had been approximately reached, and thirdly when nearly ripe; and the plants of longer life at four periods—namely, at the end of the first year, and in the second year when active vegetation was re-established, when the point of maximum accumulation had been reached, and lastly when the seed was nearly ripe. Each of the eight descriptions of plant was grown in sand (with the plant-ash), watered with the extract from a rich soil; also in a mixture of two parts rich garden soil and one part of sand. In the sand the infection was comparatively local and limited, but some of the nodules developed to a great size on the roots of the weak plants so grown. In the rich soil the infection was much more general over the whole area of the roots, the nodules were much more numerous, but generally very much smaller. Eventually the nodules were picked off the roots, counted, weighed, and the dry substance and the nitrogen in them determined.

Taking the Peas as typical of the annuals, and the Sainfoin of the plants of longer life, the general result was that at the third period of growth of the Peas in sand the amount of dry matter of the nodules was very much diminished, the percentage of nitrogen in the dry matter was very much reduced, and the actual quantity of nitrogen remaining in the total nodules was also very much reduced. In fact, the nitrogen of the nodules was almost exhausted. The Peas grown in rich soil, however, maintained much more vegetative activity at the conclusion, and showed a very great increase in the number of nodules from the first to the third period; and with this there was also much more dry substance, and even a greater actual quantity of nitrogen, in the total nodules at the conclusion. Still, as in the Peas grown in sand, the percentage of nitrogen in the dry substance of the nodules was very much reduced at the conclusion. In the case of the plant of longer life, the Sainfoin, there was, both in sand and in soil, very great increase in the number of nodules, and in the actual amount of dry substance and of nitrogen in them, as the growth progressed. The percentage of nitrogen in the dry substance of the nodules also showed, even in the sand, comparatively little reduction, and in soil even an increase. In fact, separate analyses of nodules of different character, or in different conditions, showed that whilst some were more or less exhausted and contained a less percentage of nitrogen, others contained a high percentage, and were doubtless new and active. Thus, the results pointed to the interesting conclusion that, in the case of the annual, when the seed is formed, and the plant more or less exhausted, both the actual amount of nitrogen in the nodules and its percentage in the dry substance are greatly reduced, but that, with the plant of longer life, although the earlier formed nodules become exhausted, others are constantly produced, thus providing for future growth.

As to the explanation of the fixation of free nitrogen, the facts at command did not favour the conclusion that under the influence of the symbiosis the higher plant itself was enabled to fix the free nitrogen of the air by its leaves. Nor did the evidence point to the conclusion that the nodule-bacteria became distributed through the soil and there fixed free nitrogen, the compounds of nitrogen so produced being taken up by the higher plant. It seemed more consistent, both with experimental results and with general ideas, to suppose that the nodule-bacteria fixed free nitrogen within the plant, and that the higher plant absorbed the nitrogenous compounds produced. In other words, there was no evidence that the chlorophyllous plant itself fixed free nitrogen, or that the fixation takes place within the soil, but it was more probable that the lower organisms fix the free nitrogen. If this should eventually be established, we have to recognise a new power of living organisms—that of assimilating an elementary substance. But this would only be an extension of the fact that lower organisms are capable of performing assimilation work which the higher cannot accomplish; whilst it would be a further instance of lower organisms serving the higher. Finally, it may here be observed that Locw has suggested that the vegetable cell, with its active protoplasm, if in an alkaline condition, might fix free nitrogen, with the formation of ammonium nitrate. Without passing any judgement on this point, it may be stated that it has frequently been found at Rothamsted that the contents of the nodules have a weak alkaline reaction when in apparently an active condition—that is, whilst still flesh-red and glistening.

As to the importance of the fixation for agriculture, and for vegetation generally, there is also much yet to learn. It is obvious that different Papilionaceæ growing under the same external conditions manifest very different susceptibility to, or power to take advantage of, the symbiosis. The fact, as shown by Prof. Nobbe, that Papilionaceous shrubs and trees, as well as herbaceous plants, are susceptible to the symbiosis, and under its influence may gain much nitrogen, is of interest from a scientific

point of view as serving to explain the source of some of the combined nitrogen accumulated through ages on the surface of the globe; and also from a practical point of view, since, especially in tropical countries, such plants yield many important food materials, as well as other industrial products.

In conclusion, it will be seen that the experimental results which have been brought forward constitute only a small proportion of those already obtained or yet to be obtained at Rothamsted, but they have been selected as being to a great extent typical, and illustrative of the lines of investigation which are being carried out.—(*Abstract in Nature of a paper read before the Agricultural Chemistry Section of the Naturforscher Versammlung at Halle a.S., by Dr. J. H. Gilbert, F.R.S.*)



#### THE NATIONAL ROSE SOCIETY.

THE following is the list of Committee and officers elected for the year 1892:—President: The Very Rev. the Dean of Rochester, D.D. Vice-Presidents: His Grace the Duke of Portland, the Mayor of Chester, R. N. G. Baker, Rev. J. M. Fuller, Rev. Lionel Garnett, T. B. Haywood, Robert Hogg, LL.D., M. T. Masters, M.D., F.R.S. Hon. Treasurer: Thomas Burt Haywood. Hon. Secretaries: Rev. H. Honeywood D'Ombain, Edward Mawley. General Committee: H. Appleby, J. Bateman, Rev. H. A. Berners, R. Bloxam, W. Boyes, G. Bunyard, Rev. F. R. Burnside, J. Burrell, B. R. Cant, F. Cant, Rev. A. Cheales, Captain Christy, W. F. Cooling, G. Dickson, Rev. A. Foster-Melliar, W. H. Fowler, T. W. Girdlestone, C. J. Grahame, W. J. Grant, R. Harkness, C. F. Hore, W. J. Jefferies, R. L. Knight, E. B. Lindsell, H. V. Machin, O. G. Orpen, Rev. F. Page-Roberts, G. Paul, J. D. Pawle, Rev. J. H. Pemberton, A. Prince, A. Slaughter, A. Tate, A. Turner, W. H. Wakeley, H. Wallis, R. E. West, E. Wilkins, Rev. W. Wilks, and F. T. Wollaston. Hon. Auditors: J. D. Pawle and F. T. Wollaston.

#### THOUGHTS ON THE N.R.S. ANNUAL MEETING.

WHAT a good meeting it was, to be sure. Fifty-seven good men and true present, and all intent upon business; and how good to have the reins held by the experienced hand of the ever-genial President, Dean Hole. I think it was the first time he has been at the annual meeting for twelve years. May it be very much more frequently that he shall "fill" the chair, as he facetiously remarked in acknowledging the vote of thanks at the close.

By-the-by, that vote ought to have been a "double-barrel," to include Rev. W. Wilks, Sec. of the R.H.S., for until the arrival of the President he discharged the duties of Chairman with a degree of *verve* that was most gratifying to those who prefer to have business done in a business-like manner.

What a pity, though, that the resolution fixing the date of the Metropolitan Show for the Saturday nearest to the 6th of July should not have been carried. The outlook for the past, the present, and the future all seem to point to the desirability of some such arrangement. Last Show day found Messrs. F. Cant and Harkness, each of whom has won the challenge trophy twice, both unable to stage, the former having only sixty sorts in bloom, and the other less than that. When the weather is so mild and damp that December 12th finds Roses still growing and blooming (I cut a nice bloom of Mrs. John Laing to-day), the reasonable presumption is that the next season will be a late one. The President, out of his great experience, asserted that it is simply impossible for the midland and northern growers to be ready before about the 7th of July, and yet the resolution which would have fixed the Show for the 9th instead of the 2nd was rejected. Well, perhaps, we shall have a repetition of the performance of Mr. H. May of Yorkshire, who, some ten or twelve years ago, cut his seventy-two blooms under glass, and so won the prize. Try again Messrs. Pemberton, Foster-Melliar, and Co.

But if a much-needed reform was refused, an even more needed one was adopted in the triumphant passing of Mr. Grahame's resolution, which requires that in future amateur exhibitors shall show in accordance with the stocks of exhibition varieties which they grow. This was warmly urged by the mover and his supporters, who pointed out some glaring abuses of the absolute freedom which the schedules have hitherto allowed, and the deterrent effect which these things have had upon small growers. Some two or three favoured a *laissez-faire* policy, but upon being put the motion was carried by a majority of fifteen. This is satisfactory, because a resolution passed by so substantial a majority may expect to receive the loyal support of all, even of those who dissent from its principle. The change has begun to bear fruit already. One exhibitor who had given up in despair says, "Now I'll have another try." One local Secretary has already received eight new subscriptions for next year because of the resolution, and another reports the enrolment



of a new member a week beforehand merely on the strength of the promised discussion.

But how very sad was the news Mr. D'Ombraïn had to impart—that Mr. W. J. Grant had met with so severe an accident! We were heartily sorry to lose him from the amateur ranks, but to miss him altogether from our gatherings will be a great calamity. Not only was he able to show some of the finest stands ever staged by an amateur, but he was ever ready to rejoice in the success of others, to acknowledge defeat, or to give a word of advice and encouragement to a beginner. Genial and hearty, "straight as a line," and a magnanimous opponent, he was a type of the class of exhibitor we can least afford to lose. May we all be ready to follow the example he so ably set us!—J. B.

### THE NEWCASTLE-ON-TYNE HORTICULTURAL SOCIETY.

THE annual meeting of the members of the Botanical and Horticultural Society of Northumberland, Durham, and Newcastle was held last week in Cross House Chambers, Westgate Road. In the absence of the President (Mr. Thomas Nelson) Mr. Benjamin Plummer occupied the chair. The Secretary (Mr. J. J. Gillespie) read the annual report, which contained the following:—

In previous reports the Council has invariably had to attribute the failure of the year's operations entirely to the wet weather which has prevailed at the shows, in spite of which they have struggled from year to year to keep the Society together, notwithstanding that there has often been a large deficiency in the funds. This year the Society commenced free from debt. The spring Show, held in April, was a financial success, and your Council looked forward with confidence to the autumn Show, which was likely to have been one of the best ever held, exhibitors having brought their plants from an area extending as far south as Wiltshire and as far north as Aberdeen. What happened is now a matter of history, as on the Council assembling in the early morning of the 26th August, at the Leazes Park, to place the exhibits, they found the tents had been totally destroyed by the violent gale of the previous night, and that considerable damage had been done to the plants already staged. After mature consideration your Council unanimously decided to abandon the Show, as it was impossible to re-erect the tents. After considering the claims sent in, and the available funds of the Society, it was found there was a deficiency of £335. Many of the local tradesmen having offered to reduce their accounts, and in some cases to waive them altogether, and letters having been received from several local gentlemen proffering subscriptions, your Council, though greatly disheartened, resolved to issue an appeal for financial assistance, believing that the sympathy of the public was with them. The Chairman of the Council and the then Mayor (Councillor Jos. Baxter Ellis) kindly undertook to sign the appeal, which appeared in the Newcastle newspapers of the next day. The response was at once both generous and hearty, and far exceeded the expectations of your Council. The result is that not only are the liabilities of the Society paid off, but that there is £560 to the good. Encouraged by the sympathy and help already given the Council will endeavour to uphold the status of the Shows by offering liberal prizes, giving the best musical entertainments, pyrotechnic displays, &c.; and whilst they will do their utmost to add to the surplus fund by keeping the expenditure within the income each year, they ask the subscribers to induce their friends to join the Society, so as to increase the ordinary revenue.

The Chairman moved the adoption of the report. He said that the unhappy experience they had in the autumn was not without its lessons. It brought them proof that the public had confidence in the Committee, or they would not have made such a generous response to the appeal that was issued for assistance. The Committee had worked hard, and so improved their shows that, as a matter of fact, an exhibit which would have taken first prize eighteen or twenty years ago would now only take the third prize or none at all. One of the lessons they might learn from the catastrophe of last autumn was the necessity of doing something further than they had hitherto done for retaining the confidence of the public, and sustaining their willingness to assist them in case of need. There were several ways of doing that. In a prize pamphlet on profitable fruit-growing was the suggestion that such societies as theirs might do something in the way of distribution of fruit trees, and he would ask them whether they could not do something in that direction. Another point that occurred to him was, could they not arrange to hold their annual meetings in the afternoon, and arrange for some competent person to address the society on some subjects bearing upon the objects of the society. The adoption of the report was seconded and carried.

The Chairman moved the re-election of Mr. Thomas Nelson to the office of President, and the motion being seconded by Mr. G. Nesbitt, was carried unanimously.

The Mayor of Newcastle was elected Vice-President, after which the meeting proceeded to the election of members of the Council.

### REVIEW OF BOOK.

*Travels and Adventures of an Orchid Hunter.* By ALBERT MILLICAN. Cassell & Company, Limited, 1891.

THE wish has often been expressed by plant-lovers generally that travellers who visit tropical and other distant countries in search of rare

or beautiful plants for introduction to this country would more frequently relate their experiences. As a rule, of course those engaged in this hazardous work are employed by nurserymen, and when competition is so keen it is not in their interest to describe all the localities and situations where certain plants are found. It might often be possible, however, to give useful particulars as to the local conditions that would serve as a guide to cultivators at home without indicating the exact geographical position. This is sometimes done, but usually in a meagre and unsatisfactory manner, and insufficient details in such matters are apt to prove more misleading than serviceable.

From the title of the work under notice, which professes to be "an account of canoe and camp life in Colombia while collecting Orchids in the Northern Andes," it might be expected that it would contain very much material of special interest to horticulturists, and this in a measure is true; but after a perusal of the book we are somewhat in the position of Oliver Twist—namely, we "want more," i.e., more of the interesting information of which we receive only a taste. The author dedicates the work to R. Brooman White, Esq. of Arddarroch, "whose wealth and love of Orchids have encouraged and supported me in the journeys described, and whose kindness has rendered the present publication possible." Mr. Millican further tells us that "the book aims at representing to the reader, and especially to the lover of Orchids, the circumstances under which these plants are found in the north of South America, as well as being a guide to the traveller." Later in the preface he informs us that "It is not a missionary's report, nor a traveller's diary, nor a student's compilation, but a narrative of things seen and experienced by me while travelling with natives through the forest, sharing with them the hospitality of the wayside hut, or the forest shelter and the camp fire, as well as the more agreeable life of hotels and towns. The information contained in this volume has been gathered over a period of four years, during which I have made five journeys to the Orchid districts of South America, the time occupied being generally from the month of October to the month of July."

The book comprises 222 pages, but up to page 114 we have little directly connected with Orchids, the first eight chapters being devoted to a description of the passage from Liverpool to the West Indies and South America, together with the journey "up country" from Barranquilla on the river Magdalena. Having reached Bucaramanga, the author states (page 110), "My journey was made in search of the fairy tribe of Orchids, and as up to the present I had not even seen a single plant of value, I was delighted to learn that the early botanists had found the gorgeous *Cattleya Mendeli* growing around here in profusion. Now, however, through the immense exportation of these plants, not a single one is to be found within many days' journey from here on mules." Starting on the journey, Mr. Millican notes in passing the town of Piè de Cuesta at about 3500 above sea level, with "a mild balmy air, which is never oppressively hot or disagreeably cold," that he found "the beautiful *Epidendrum atropurpureum* covering the walls around the houses, all flowering in profusion." Continuing the expedition beyond Piè de Cuesta, the author mentions an extensive plain, termed La Mesa de los Santos at a considerable elevation, and while "the vegetation consists of a tall rank herbage, with occasional scrub, intermixed with thousands of the beautiful *Sobrolia leucoxantha*, with rose and white flowers of the colour and substance of a *Cattleya Mendeli*, but so difficult to transport that very few of the plants are known in England." The description, however, scarcely corresponds with the *Sobrolia* known under the name given in collections here, for the flowers are yellow and white. At one side of this plain it appears are precipices over 200 feet high, and "on the ledges of these precipices, where the eagle and the condor make their home, the lovely *C. Mendeli* has grown in profusion since the memory of man. Even when the first plant-hunter arrived, these dizzy heights offered no obstacle to his determination to plunder. Natives were let down by means of ropes, and by the same ropes the plants were hauled up in thousands, and when I visited the place all I could see of its former beauty and wealth of plants was an occasional straggling bulb hung as if in mid air on some point only accessible to the eagles. I left the place impressed with the magnificence of the scenery, but disappointed in my search for plants."

After a prolonged search in a semi-tropical vegetation, consisting of Ferns, Selaginellas, Bamboos, Palms, and timber trees, the author was "rewarded with the object of my search in the myriads of Bromeliaceæ and Orchids which literally cover the short, stunted trees and the bare points of rocks, where scarcely an inch of soil is to be found. The most magnificent sight for even the most stoical observer are the immense clumps of *Cattleya Mendeli*, each new bulb bearing four or five of its gorgeous rose-coloured flowers, many of them growing in the full sun or with very little shade, and possessing a glowing colour which is very difficult to get in the stuffy hothouses where the plants are cultivated. Some of these plants, considering their size and the slowness of growth, must have taken many years to develop, for I have taken plants from the trees with 500 bulbs, and as many as 100 spikes of flowers, which to a lover of Orchids is a sight worth travelling from Europe to see. Apart from the few extraordinary specimens, the Orchids, as a rule, are very much crowded and mixed up with other vegetation. The photograph taken on the spot represents a tree growing in its natural state in the forest. The higher branches are covered with a long, white lichen; a little lower is an immense clump of *Tillandsias*; while the branch on the right hand is inhabited by some *Oncidiums*. The next plant, lower down, is a nice piece of *Cattleya Mendeli*. The whole of the mountains at the time of my visit were crowded with the famous parasite. Like most of my predecessors, I was tempted to bear away a large quantity of



the coveted plants, besides exploring the mountains and enjoying much of their beauty."

*Odontoglossum crispum* was the next special object, and this was to be sought in the interior of Colombia in the department of Cundinamarca, on the slopes of the Andes. "For five days' journey the track had run through the most miserable class of vegetation. Apart from the curious undulating tops of the mountains, which sometimes extend away into most glorious scenery, nothing is to be seen but a miserable scrub, and the eye becomes weary with the endless expanse of moss and short stunted shrubs. When we came to some wayside farm or plantation, the clumps of Orange trees, laden with their wealth of golden fruit, somewhat broke the monotony. A few flocks of sheep and stray cattle wandered about over the immense waste lands, but an almost entire absence of birds and other animal life gave the tops of the Andes an appearance of desert loneliness. As a rule, in the early morning and in the evening the tops of the mountains are enveloped in thick mist, and the track was scarcely visible. The rising sun gradually dispelled this from the peaks, only leaving straggling patches in the valleys. At the town called Puente Nacional I was delighted to find a somewhat better class of vegetation commence, and this seems to be the limit of the growth of the *Cattleya Mendeli*, and the commencement of the gorgeous-flowered *Cattleya Warsecwiezi*. In the mountains near to this town, in the flowering season of the plants, the display in the woods is most superb. High trees, in some places, are so hung with these glorious epiphytes that very little is to be seen but a blaze of purple and rose. A small *Epidendrum* with scarlet flowers makes up the finishing touch of colour."

Then the author describes his visit to the Pacho district, where so many fine varieties of *Odontoglossum crispum* have been found. After leaving there he proceeds in search of *O. odoratum*, and says: "The mist had scarcely risen from the top of the mountains when we came in sight of the valley and range of mountains on the other side, where I expected to find *Odontoglossum odoratum*, knowing that this variety is found growing at a lower altitude than the *Odontoglossum crispum*, although they are both often found at a high altitude growing on the same tree. By evening we had made the descent of the tortuous path to the village of San Cayetano, most of the journey being made in a blinding rain. This village is situated on the very edge of the *Odontoglossum* forests. I expected to find someone here who would help me to get plants in the woods; but the people were too indolent for me to persuade them to work for wages, so I rested here for the night, and then kept on the journey further into the woods to a place called El Ortiz. I was told that here I could find people who would be willing to work in the mountains. We had scarcely entered the forest on this side of the mountain when I remarked a difference from anything I had seen before. The trees here were so grown together that they made a thick wood, while every branch and trunk was laden with a heavy coat of trailing lichen, perfectly dripping with water, so much so that, riding under them, our clothes were quickly wet through. In these natural reservoirs the *Odontoglossums* find their home at an altitude of from 7000 to 8000 feet above the sea, with a temperature which often falls as low in the night as 50° Fahr., and I have never seen the thermometer rise above 59° Fahr. at mid-day. *Odontoglossum odoratum* is most conspicuous as well for its heavy branched spike of flowers as for its powerful smell, which fills the air until it becomes oppressive. The plants are almost hidden from sight in the trailing mass of lichen, and when they are not in flower they are difficult to find. I arrived at night at the hut called El Ortiz, after a toilsome ride, but the whole journey had been made through a wealth of Orchids. Being informed by the natives that the *Odontoglossum crispum* had all been taken away from here, leaving only the *Odontoglossum odoratum*, I was obliged to continue my journey over the top of the mountain-range, along a track which is too bad to describe, but, at the same time, the scenery is very beautiful. After three days' journey, passing on the way a lovely valley rich with patches of Sugar-cane and Maize, and also a small village called Buenavista, I struck into the forest, in the direction of the emerald mine. Here, at an altitude of about 8500 feet above the sea level, I found an abundance of plants, their magnificent spikes of flower looking doubly beautiful hanging from the branches of the trees, some high up out of reach of the native climbers, and others so low as to be easily pulled off by hand."

A journey is also related to the emerald mines of Muzo and to La Palma, where many Orchids were found. "On the top of one of the high mountains on the way, near a village called Cachiri, at a height of 10,000 feet above the sea level, I passed on the side of the track thousands of *Masdevallias*, chiefly of the *Harryana* variety. On another hill, two days' journey further along, but much lower, the trees are hung to crowding with the dainty little *Oncidium cucullatum*. Any future novice Orchid hunter in search of *Odontoglossum Pescatorei* will find it by leaving the town of Oeana, passing across the magnificent plains called La Savanna de la Cruz, and entering the chain of the Andes on the western side. Here, amongst the matted, moss-grown vegetation, *Pescatorei* is growing side by side with *Odontoglossum triumphans*, while the creeping rhizomes of *Odontoglossum coronarium* cover the roots of the same trees. I have seen the curious *Anguloa Clowesi* and the pretty *Ada aurantiaca* here as well, while in the cooler parts that choice little *Odontoglossum blandum* grows in profusion in a peculiar mist which reminds one of a continual Turkish bath. It is all very well to see this fastidious little Orchid in its natural beauty, but it is quite another thing to succeed in bringing it home to England alive. Many of the plants die before they leave the coast, many more before they pass the West Indies; a few reach the Azores, and fewer still arrive in England safely."

But the extracts given will afford an excellent idea of the character of the book, and it is not necessary to continue them farther. It must however be said that, in addition to the subjects of special horticultural interest, the work contains a variety of information respecting the natural history of the country, the chief towns, the customs of the people, and all that we look for in works of travel. It is admirably printed on fine paper, tastefully bound, and contains a large number of illustrations prepared from photographs taken by the author. A coloured frontispiece of *Cattleya Mendeli* var. *Empress of India*, a handsome variety collected by Mr. Millican, also adds to the attractions of a book that will no doubt find its way into many horticultural libraries.

#### A GRACEFUL ASPARAGUS.

SEVERAL species of *Asparagus* are now of considerable importance in gardens for decorative purposes, notably *A. plumosus* and the variety *plumosus nanus*, which are valuable as plants in pots and for cutting. Another form, of which a small branch is represented in fig. 96, was shown by Sir Trevor Lawrence, Bart., M.P., at the Chiswick meeting of



FIG. 96.—A GRACEFUL ASPARAGUS.

the Royal Horticultural Society on October 6th this year under the name of *Asparagus retrofractus arboreus*, when a first-class certificate was awarded for it by the Floral Committee. It is distinguished by the long hair-like bright green leaves, arranged in dense whorls, and not in the flat, frond-like manner of *A. plumosus*. Being free and strong in growth it will, no doubt, prove useful for many purposes.

#### JOINTS IN HOT-WATER PIPES.

YOUR correspondent "O. M." surmises pretty accurately as to the different causes which bring about the bursting of the sockets in hot-water pipes; and whilst I have nothing whatever to say against his method of making joints, I think I can give him "a wrinkle," and possibly a few others as well, in what I consider the best method of doing this work. By following my directions anyone may undertake to make a joint perfectly water-tight, even if the pipes are full of water, and pouring out in streams all round the socket. Now for the *modus operandi*. Take a piece of old ship-rope—the stiffer it has become with tar the better—untwist the strands, and with a caulking tool and hammer force the tarred rope into the joint as solid as possible, during the process adding a little cement, then more tarred rope, and finish the joint smoothly with the cement. You will then have a perfectly water-tight joint, and one that will never burst the socket. Another important matter is that joints made in this way do not take up more than half the time of those made in the old style.—WELTON DALE.

I USED to think that joints made with iron borings properly mixed with sal ammoniac were by far the best, but experience has taught me they



are not. The loss of time in picking out joints in case of accident during severe frost is a serious matter. When our hot-water apparatus was put down several years since, the joints were made with iron borings, sal ammoniac, and the usual hemp, named by the then fitters "gaskin." Not a single joint in 3000 feet of piping ever leaked or burst, so well was the work done, but the inconvenience of picking some of them out has been experienced, and I now consider nothing beyond red lead and "gaskin" is necessary to make joints good enough for any strain to which such pipes and joints may be subjected to. Portland cement I have not tried, nor do I think it is necessary, for the same reason that I object to the iron borings—difficulty in removing.—S.

### INWOOD.

It is worth anyone's while to visit Inwood, the seat of Mr. Merthyr and Lady Theodora Guest. From Onions to stove plants everything is grown to the highest state of perfection. The conservatory is one of the prettiest it has ever been my lot to see. Formed exactly in the shape of a horseshoe, 200 feet long, it has an intertwining walk, each bend of which opens up a fresh view different in its main features from the rest. It is in this conservatory that Mr. Wilkins and his able assistants gain their skill in the arrangement of groups of plants, which at the Salisbury Show this summer gained highest honours in two classes against great competition. Every foot of this great conservatory is arranged to give the best decorative effect to every plant. One stately *Latania borbonica* is a magnificent specimen; it measures 13 feet high, 27 feet through, and bears twenty-eight finely developed leaves. It stands alone to show its full magnificence, dipping its drooping leaves into a pool of water with which it is surrounded.

The houses abound in choice and rare specimens, which are seldom to be met with in this country away from Kew. In one huge house the luxuriant growth is tropical indeed. At the entrance was an immense *Brugmansia suaveolens*, planted in the centre of a bed. Its white trumpet flowers measured over a foot long, while its delicate perfume pervaded the whole house. It flowers three times a year, and bears hundreds of blooms. Immediately behind was a noble group of Bananas growing rampant with their mighty leaves and noble clusters of flowers and fruit. Fruit has been cut from these plants weighing 80 lbs. In the same house also growing and fruiting were the Custard Apple, the Guava from which 10 lbs. of Guava jelly has been made this year. *Monstera deliciosa* in fruit is also there; while clambering up the pillars and high overhead are *Allamanda*, *Ipomœa Leari*, the Giant *Granadilla* (*Passiflora macrocarpa*), all twining and flowering in happy fellowship.

Chrysanthemums were in fine exhibition form if only one could have persuaded Mr. Wilkins to show, but he generously thought he had won his share of prizes for one year. There are three Fern houses with some grand specimens of *Adiantum cuneatum* and *farleyense* 6 feet through, *Davallias* 8 and 10 feet, *Gymnogrammas* 6 feet, besides many others. The long range of vinceries contained fine bunches of *Alicante*, *Lady Downe's*, *Foster's Seedling*, and *Gros Colman*, averaging 4 lbs. to 5 lbs. each.

Lady Theodora Guest is devoted to her garden; in fact, to every part of it. Through her efforts so many beautiful and rare plants have been collected. The pleasure grounds were most tastefully laid out nine years ago under the direction of Lady Theodora Guest and Mr. Wilkins. A wild overgrown wood was converted into an immense pleasure garden. Here, again, the statuary is alone worth a visit. The lovely garden walks, the herbaceous borders, the rock gardens, are things to dream of but defy description. Being a Rose man though, I must just mention a *Madame Isaac Perriere* covered with blooms late in the year. This is a glorious Rose for very early and very late bloom. The Onions are as wonderful and perfect in their way as any of the more beautiful things mentioned. They are from Mr. Deverill's strain, and every one is a perfect specimen worthy of any exhibition table. Mr. Wilkins tells me he has not been beaten either this year or last with Onions, though he has exhibited far and wide, besides securing the gold medal this year at Edinburgh. In a quaint old tower, possibly a watch tower of the olden time, is the Onion room. Rather prosaic, is it not? but methinks they would well serve as cannon balls now, so smooth and hard and round are they. I never fell in love with an Onion before, but these giants had not even the smell of Onion upon them.

Every convenience seems to be at Mr. Wilkins' hands, and the skill he shows proves him to be one of those thoroughly good all-round gardeners who can only be found in such a place as this.

### IWERNE.

Now we speed away by strange ways and ever-changing roads to Iwerne Minster, where the baronial seat of Lord Wolverton is found. The noble park with clustering trees, bright in their autumn glory, were very handsome. Between groups of immemorial Elms there are some splendid young plantations some twelve years old. Just now few sights give more pleasure in a landscape than the judicious blending of Larch, Silver Beech, and Scotch Fir. The soil and situation are evidently well suited to these young trees, for the progress they have made is wonderful.

The gardens are reached after passing across the vast lawns and by the handsome modern mansion, on which it is evident no expense has been spared in order to secure comfort and refinement. It does one good to receive the sincere and hearty greetings of Mr. Davidson, than whom a more genuinely enthusiastic gardener it would be hard to find.

All true gardeners are gentlemen, and this is one of the true varieties, and a grand old specimen of his class. Mr. Davidson was a pupil of the late Charles Macintosh of Dalkeith Palace Gardens, and Editor of the "Book of the Garden." Mr. Davidson's forte seems to be Grapes, and many are the laurels he has won. In spite of the past unpropitious weather there was still a grand crop of Grapes hanging, among which were *Lady Downe's*, exceptionally fine in bunch, berry, and colour, also *Alawick Seedling*, *Mrs. Pearson*, *Alicante*, and *Mrs. Pince*. It is a pity Zonal Pelargoniums are not more universally grown as they may be seen here, lovely plants in 6-inch pots covered in rich blooms. With their strongly contrasting colours they make a grand display on a dull November day. Such varieties as our old favourites *Niphctos*, *Queen of the Belgians*, *Henry Jacoby*, *F. V. Raspail* seem exactly suited for this purpose.

The conservatory is a stately lofty building adjoining the house arranged with *Chrysanthemums*, *Palms*, *Poinsettias*, &c. The electric light in here at night must be very effective. Tea Roses seem to thrive here far better than Hybrid Perpetuals. The soil is a very heavy loam, and has been entirely remade by the addition of hundreds of loads. The natural subsoil is hungry chalk.

Many and quaint are the anecdotes our old Scotch friend has to tell, not the least interesting of which was that some years ago Mr. Gladstone visited the late Lord Wolverton. Mr. Davidson had the honour of showing him round the garden. Five years afterwards Mr. Gladstone again visited Iwerne. He remembered and asked for Mr. Davidson, and though that veteran statesman must have gone through more in those five years than most men go through in a lifetime Mr. Gladstone remembered the conversation of the former visit. It was late on a dark winter afternoon before I could tear myself away from my hospitable friends (for I must include Mrs. Davidson if she will allow me), and ride my thirty miles home.—W. H. W.

### SARRACENIA PURPUREA.

THE history of this curious plant is as interesting, probably, as that of any of our wild flowers. The pilgrims who landed in the "Mayflower" paid considerable respect to the *Epigœa*, if the ideas of our poets are to be trusted; but they did not seem to have noticed this, for John Josselyn, who styles his profession "Gentleman," and who wrote a work on "New England Rarities" in 1672, was led to "wonder where the knowledge of this plant hath slept all this while—i.e., above forty years." He gives a rough sketch of the plant and the following quaint description: "Hollow leaved Lavender is a plant that grows in salt marshes overgrown with moss, with one straight stalk about the bigness of an oak straw, better than a cubit high, upon the top standeth one fantastical flower, the leaves grow close from the roots, in shape like a tankard, hollow, tough, and always full of water; the root is made up of many small fibres, growing only in the moss and not in the earth, the whole plant comes to its perfection in August, and then it has leaves, stalks and flowers as red as blood, except the flower, which hath some yellow admixt." But even "John Josselyn, Gentleman," might exclaim "there is nothing new under the sun," for in spite of his wonder where the "knowledge had slept" till he discovered it, it was known to Charles de Clusius, who in a history of rare plants, published at Antwerp in 1601, describes it as a plant "allied to the Sea Lavender," which then, as now, was the common name of the *Statice Limonium*. In those days plants were grouped according to their external resemblances, and those who are familiar with the broad, thick, dark green leaves of our common Sea Lavender will not wonder that our early botanists saw in our Pitcher Plant a close ally, but with a hollow leaf. It may be interesting to observe that according to Mr. Tuckerman, who edited Josclyn's work, "Clusius' figure was derived from a specimen furnished to him by Mr. Claude Gonier, apothecary at Paris, who himself had it from Lisbon, whither we may suppose it was carried by some fishermen from Newfoundland coast." So that we may look back on near three hundred years since this remarkable plant was known to Europeans, and it was, perhaps, one of the first plants of our continent to make its bow to the lovers of plants in the Old World.

As a cultivated or living plant, however, it does not seem to have been further known till Dr. Sarrazin sent it to the Royal Garden at Paris, from whence Tournefort described it in 1700. It was about this time that the true relationships of plants were becoming understood, and Tournefort, seeing the distinctness of the plant from *Limonium*—the Sea Lavender—made a new genus, calling it *Sarracena*, after his friend Dr. Sarrazin. But we have no account of its culture in England till the time of Peter Collinson. In the notes he made of his garden, and which were published by Dillwyn under the title of "Hortus Collinsonianus," he says, "*Sarracenia canadensis*," which was Tournefort's name, the *i* being finally added by Linnæus, "has for some years flowered annually, being placed in large pots, and the roots set only in moss, and no earth, and the pots set in pans of water, kept always full; this makes an artificial bog, in which they naturally grow; the plants were sent to me from New York anno 1755." We can further trace these plants by the correspondence of Dr. Colden, published some years ago by Prof. Gray, in which a letter appears from Collinson to Colden, dated June 9th, 1755, in which he says "the *Sarracenas* you sent me are now in flower." Of late years the plants of the genus have been brought strongly before the general public through the impression that their singular structure was especially designed for catching insects, and this has led to a more general culture of our present species particularly than ever before. It has also been employed by the late



Dr. David Moore of Dublin, Ireland, as one of the parents in hybridising the various species of *Sarracenia*, of which numerous curious and interesting examples have been produced. The exact use of these pitchers of water in the economy of the plants has long been a subject of speculation, and one by no means satisfactorily settled. Philip Miller in the "Gardener's Dictionary," issued in 1758, saw no further use than as a provision to aid, and not as a lure to living creatures. He says "The English who first settled in North America gave to this plant the title of Side-saddle Flower, from the resemblance of the stigma to a woman's pillion; and some of the first writers who described the country have given imperfect accounts of this plant. They have taken particular notice of the leaves always having water in them; and one of them mentions his being often refreshed with this water in great droughts, when he was at a distance from any other supply." Of the lid at the top of the pitcher he says: "This top or ear is supposed in hot, dry weather to shrink and fall over the mouth of the tube, and serve as a lid to prevent the exhalation of the water; so that in the greatest droughts birds and other animals repair to these plants, where they always find water to refresh them."

The plant is often called "The Huntsman's Cup," and it is quite likely Miller's account is made up in imagination from the name. He was evidently under the impression that the cups were filled by rains, and that therefore the lids were to prevent evaporation, whereas it is now known that the pitchers are filled through the roots, and that the process goes on in dry as well as wet weather. Moreover, the plant never grows in dry ground or away from water in the driest time, so that living creatures could get all the water they needed without resorting to these. As to the Huntsman, who in a dry time was "refreshed," if he had attempted it, he would have seen that in the water were numbers of dead insects, and he would have been anything but refreshed by the draught. It seems to have been the custom with many writers in the past times to give their impressions for the facts, and is in striking contrast with the strict fidelity to facts demanded in the modern writer.

As already noted, insects, as well as water, are generally, and as far as the writer of this knows, always found in the pitchers; and modern investigators believe that their capture is the chief design of this wonderful structure, and that after capturing, the dissolved elements of the insects are used as food. In New Jersey, from whence the plant used in illustration was taken, the writer has never examined the leaves without finding living larvæ which, as well as the living plant were evidently feeding on the dead material, and in plants on tussocks of wet sphagnum moss, so surrounded by water that only winged insects could get there of themselves, others which could not have crossed the water of their own volition have been found in the pitchers. Sir James E. Smith has recorded that a gardener in the Liverpool Botanic Garden had seen larger insects, probably Ichneumons, carrying others into the pitchers, and he infers that most of the insects are thus placed there as food for its own larvæ.

Besides the common names already noted, Professor Douglass of West Point, who accompanied the Cass expedition to the Great Lakes in the summer of 1820, notes in the fourth vol. of Silliman's Journal, that he found the plant about the upper waters of the Mississippi, especially at Point Keewenaw on Lake Superior, and that it was known to the Indians as "Owl's Moccasin"—in their language, "Ko-Ko-Mokasin."

*Sarracenia purpurea* is the most northern of all the species, and grows over a greater extent of territory than any native species. It is found in Newfoundland and Hudson's Bay, and extends west to the Mississippi River, beyond which it has not been seen. Southwardly it reaches Florida. Generally preferring low lands, it is not, however, unusual to find it in swamps at high elevations. Pursh found it on the Pocono Mountain, as he records in his diary, and a correspondent of the second volume of the "Entomologist and Botanist," notes it in Northern Wisconsin, and the curious fact that wherever found it is always in the sub-carboniferous formation, as if that were the period when it was first created. It is generally uniform in its character, but varies in colour with the season. In early spring it is quite green, in the autumn dull brown. Our artist has taken it just as it is passing from the green to the brown. The flowers are generally always of a brown-purple; but sometimes these are produced as green as the leaves, and with some leaf variation in connection, and have suggested to some authors to make of the form a distinct variety as *Sarracenia purpurea heterophylla*. Mr. E. S. Miller once found a plant at Hampton, New York, with the flowers double.—(*Meehan's Monthly*, Philadelphia).



#### HARDY FRUIT GARDEN.

**PRUNING CURRANTS.**—Proceed with this as fast as possible whenever the weather is suitable. All kinds of fruit trees should be attended to in rotation. In places where Gooseberry bushes are apt to be denuded of their buds by birds they are sometimes left unpruned until

late in the season, while others prune them early and protect them; the latter is probably the best plan to follow in the majority of cases. All fruit bushes should be kept open in the centre, so that sun and air can reach both sides of the shoots.

**RED AND WHITE CURRANTS.**—These fruits bear freely from small spurs on the old branches; the young shoots may, therefore, be cut back closely to two or three buds, unless the leading shoots are required for further extension of the tree or to fill up vacant spaces, in which case they should be left about a foot in length. Clear all suckers away cleanly from the roots, and if any of the main stems are becoming weak from old age cut them back and bring young ones up in their place. These fruits do well grown as standards, and are easily trained on that system by pruning the young trees to a straight stem until they are 3 feet high, and then forming a head as in ordinary bushes. Trees on this system are much handier for gathering, for cultivation, and for netting for late use.

**BLACK CURRANTS.**—The finest fruit is borne on the young wood; the pruner should, therefore, endeavour to keep a continual supply of young wood in the trees by removing the old wood every year as much as possible, and bringing young shoots on in its place. Sometimes it is necessary to cut the bushes right down to the ground when they get old and do not produce young shoots freely. This causes the loss of a year's crop, but the trees throw up some fine growths if encouraged with a little manure, and the fruit is much larger afterwards. In pruning these do not take the points off the shoots, as is done with Red Currants, unless the trees are getting too tall, but thin out the wood so that all of it gets plenty of air.

**GOOSEBERRIES.**—Trees of this fruit bear from spurs on the old wood, and also from the young shoots; and as the latter bear the finest fruit, some of them which are of moderate strength should be left at intervals on the main branches, merely shortening them to about 6 or 8 inches, but none should be left for this purpose which are thicker than wheat straws, as they will only produce more wood instead of fruit. Pull all young suckers clean out by the root and the strong growths in the centre of the bushes if this was not done in the summer, which is the best time for it. Gooseberries are very apt to throw up strong shoots from the roots, and for this reason are best grown on a single stem to about 1 foot in height. The shoots of some kinds grow almost upright, while others form a curve, which gradually bends to the soil again. The latter kinds require to be constantly shortened back in the leading branches to a young shoot on the upper side, so as to keep the ends from getting too near the ground. All of them should be more than a foot from the surface when pruning is finished, or the weight of the fruit next season will soon bring them down farther; the fruit then gets spattered with dirt when heavy rains come, and is afterwards useless. In pruning the leading shoots of bushes with a drooping habit always cut to a bud that is on the upper side, as this will grow upwards for a time when it starts, and assist in keeping the branches away from the surface.

**PROPAGATING BUSH FRUITS.**—Now is the time to select cuttings of the various kinds as required, choosing the straightest and strongest shoots, and laying them in by the heel in a convenient place, to be prepared for planting in bad weather, when it is impossible to get on with outside work; they may then be taken into the buildings and cut into the proper form. Gooseberries and Red and White Currants should be not less than 1 foot in length; after taking out the terminal bud all the lowest buds should be removed, leaving only four at the top; they will then form bushes on short clean stems, and not throw up suckers. If standard bushes are required take off all buds except the terminal and the one nearest to it. These trees take longer to form than dwarfs do, but are preferred to them for some purposes. Black Currants need not have any buds removed, as they require a constant supply of young wood from the base, and suckers are therefore to be encouraged. The cuttings should not be left out of the soil longer than is absolutely necessary. When made they must either be temporarily heeled-in again or inserted into the nursery beds; there they may be planted in rows 1 foot apart and 6 inches apart in the row, pushing them well down to a depth of 4 inches, and treading them in firmly. Omit every seventh row, which will give beds 5 feet wide, with 2 feet alleys between them. These are convenient for cleaning and attending to the plants.

**PROTECTION FROM BIRDS.**—Bullfinches, tits, and sparrows often make sad havoc with the buds of Gooseberry bushes in severe weather, and if any danger is apprehended from this source some white knitting cotton should be strained over the trees by winding it round the tips of some of the tallest branches, and crossing it about in various ways. This cannot be done, of course, until all planting, pruning, and digging is completed.

**FIGS.—PROTECTION FROM FROST.**—North of London Figs cannot be depended on as to hardiness, especially as far as the next year's crop is concerned. The young Figs may now be seen as small buds at the joints near the extremities of the shoots. These are the most tender parts of the tree, and are sometimes damaged by frost enough to spoil the crops without killing much of the wood; but in winters like the last one we had the old also is likely to be killed. There are many ways in which they can be protected. One of the easiest and best is to loosen all the branches from the walls, tie them in bundles, and then thatch them with straw, beginning at the lower end, and tying each layer on with string, securing the bundle to the wall again when finished. All young Figs which are as large as marbles should be rubbed off before tying the shoots together, as they are useless. In mild winters it is possible for a few of them to survive and come to



maturity in the following summer; but they never make such fine fruits as those which make the whole of their growth in the next season.

#### FRUIT FORCING.

**VINES.**—*Early Forced Vines in Pots.*—If the pots are placed on pillars in the pits the fermenting materials will need frequent additions as the heat declines, bringing the material up about the pots so as to maintain a steady bottom heat of 70° to 75°. Much heat at the roots is injurious at this stage. A gentle warmth, however, accelerates root action and admits of higher feeding than when the roots are not incited into activity. The temperature of the house will have been gradually raised so as to have it 60° to 65° by the time the Vines were coming into leaf, allowing an advance of 5° to 10° by day, admitting a little air at 70° without lowering the temperature or causing an inrush of cold sharp air, and close early in the afternoon. Disbud as soon as the bunches can be detected, reserving the most promising. Stop the growths about two joints beyond the bunches, allowing a leaf or two more when there is room. Remove the laterals up to the bunches, and allow those beyond to extend as space permits without crowding, it being important that the foliage have full exposure to light and air, encouraging that only. Two or three joints of lateral extension are sufficient for fruiting Vines in pots, the crop preventing further extension. If the Vines show two or more bunches on a shoot remove the least promising before they flower, and do not allow more to remain than will be necessary for the crop, as a number of bunches allowed to remain until thinning time only lessen the size of the berries ultimately retained. Damp the floors and other available surfaces in the morning and early afternoon. Where, however, fermenting materials are employed the necessity of damping will not be so great as where the heat is solely obtained from hot-water pipes. In the latter case the evaporation troughs should be filled with guano water 1 lb. to 20 gallons of water, or clear liquid manure from stables or cow byres, and that may also be employed for damping the floors after closing the house or early in the afternoon. The liquid manure may be used occasionally in structures having fermenting beds, but the imperceptible vapour arising from those is in most cases sufficient, and care must always be taken to use the liquid weak, or an excessive supply seriously injures the foliage.

*Early Forced Planted-out Vines.*—These start less promptly, as a rule, than Vines in pots with gentle warmth at the roots, especially those which have not previously been subjected to early forcing, and they should not be hurried, time being allowed them to insure an even break and sturdy growths. The buds of those started last month are now moving, and another good watering must be given the inside border, unless already thoroughly moist, at a temperature of 85° to 90°, and in the case of weakly Vines supply liquid manure. Raise the temperature to 55°, and increase it a degree or two daily so as to have it 60° to 65° by artificial means when the Vines are producing their leaves. In forcing to time it is sometimes necessary to induce growth by a brisk moist heat of 70° to 75°, continuing it until the buds have fairly started growing, and then allow it to fall to 60° to 65°, with 5° to 10° rise in the daytime. This is important, a moderate temperature being essential to secure short-jointed wood and stout, well-developed foliage, but a close atmosphere is very prejudicial, and cutting currents of air equally disastrous; therefore ventilate carefully and early, seeking advancement and solidification of the growth under sunshine, closing early so as to husband the sun heat as much as possible. Outside borders must be protected against cold rains and melting snow. A 6-inch thickness of dry leaves with a little litter over them to prevent their blowing about are effective, especially when covered with spare lights.

**FIGS.**—*Early Forced Trees in Pots.*—Very early Figs are best secured from trees in pots, as they can be given a slight warmth at the roots, and be kept in steady progressive growth. There are numbers of varieties that force well. The earliest is Early Violet and Angelique (Madeleine). Those have small and medium sized fruit respectively; Black Marseilles and White Ischia also have small fruit, Brown Ischia and Pingo de Mel have medium sized fruits, Brown Turkey, St. John's, and White Marseilles produce large fruits. All force well when brought on gradually and not subjected to too much heat in the early stages. This is apt to occur with bottom heat, and the heat about the roots being 70° or more, during the early part of the forcing process the growth is too rapid. The embryo Figs also swell freely, but not having time for the proper development of the floral organs they are cast. This defect can only be avoided by thoroughly ripened growths, sparse or no second crops, and steady progressive advancement in forcing. Until the leaves are unfolding the heat at the roots should not exceed 70° at the base of the pots, then it may be increased to 75° or 80°, giving an atmospheric temperature of 70° to 75°. That is quite sufficient, the fermenting material being added to as required to maintain the heat regularly. The temperature of the house should be increased by degrees to 60° at night, 65° by day by artificial means in severe weather, 5° more in mild weather, 70° to 75° with sun heat and moderate ventilation, closing at 75°, but in mild weather a little air must be admitted at 60° to 65°, just a "crack" at the top of the house to let out pent up moisture and insure a circulation. In cold weather the pipes radiating heat will keep the air in motion, and the moisture will be condensed on the glass, therefore ventilation is not then required. Be careful, however, not to bring on the growth too rapidly, especially in dull weather, as foliage produced under such conditions is not of stout texture, but large and thin, possessing little elaborating power, and is very susceptible of external changes, often scorching and becoming infested with red spider.

Afford water whenever necessary, always in a tepid state. Syringe the trees in the morning and early afternoon so as to have the foliage dry before nightfall, but avoid excessive moisture, damping the house only in dull weather.

*Modes of Growing Figs.*—Those contemplating Fig culture under glass may find the following particulars useful, and it is not necessary to have a large house or a great number of trees to enjoy ripe Figs from June to September inclusive. Two methods are followed in cultivating the Fig—namely, in pots and planted out. The former is an excellent method, either for early forcing or growing in cool houses; but in the latter one crop only will be secured, and that ripening at the latter part of summer, whilst two crops are had by starting the trees early in the year. Pot trees become larger and more fruitful the longer they are grown, as the restriction of the roots and feeding them highly contributes to their fertility. The Fig is a light and heat-loving tree, therefore the house must be light and well ventilated, and the trees must not be crowded. Grown in pots for forcing they must be started early in the previous season, so as to make and perfect a growth and have time for rest before starting. When once subjected to forcing they commence growth, as the usual time of starting comes round in a lower temperature than trees that have not been subjected to the process.

Planted-out trees, however, afford the largest fruit. They are often very unsatisfactory, because the borders are too wide, and deep, and rich; consequently, the wood is long-jointed, the foliage large and thin, and the trees produce wood instead of fruit. The wood must be stout, short-jointed, and hard, the leaves thick and leathery; and to insure these the border must be narrow, firm, and well drained, and the growth being trained near the glass. A 3 feet width of border is ample to begin with, and in no case need the border be more than one-third the breadth of the trellis. This affording a favourable rooting medium, supplies of nutrition can be afforded as the growth and crop requires. A foot depth of drainage should be provided, and this must have a drain under to carry off superfluous water, unless the site have natural drainage as gravel or rock. As Figs like lime, a layer of old mortar rubbish or chalk 4 to 6 inches thick on the rubble will supply that substance, and prevent the roots becoming massed in the drainage. The soil may consist of any good loam, preferably tuify from a pasture on the limestone formation. If not calcareous and inclined to be light, add a fourth of clay marl dried and broken up small; if heavy add a fourth of road scrapings and a sixth of old mortar rubbish. Calcareous matter is almost a necessity for Figs, but they can also use silicious matter for much the same purposes as lime, and both should be provided. Bones are generally mixed with compost for the trees; but buried bones are slow in decomposing, and it has proved better to apply bonemeal or superphosphate to the surface. The whole of the materials must be well incorporated, and made up firmly when moderately dry. Two feet deep of soil is ample, allowing a few inches more for settling. Trees with single stems of the height necessary to reach the trellis are the only suitable ones. They will be in pots, and need not be planted until the time of starting, or they may be planted in autumn. Soak, and wash away all the soil; disentangle the roots and spread them out evenly, working the soil in amongst them and making quite firm about the collar, disposing the roots in layers, all within 9 inches of the surface, and covering the upper layer with 3 inches of soil. Give a good watering to settle the soil about the roots, and when soaked in and become dry so as to bear the pressure of the foot without elogging tread firmly, and mulch with a couple of inches thickness of short partially decayed manure. Fan training is most suitable, as it admits of cutting out the exhausted growths and keeping up a succession of bearing wood. The shoots should be trained about 1 foot from the glass, never crowding them, as light is very important, also air, to insure fruitfulness and high quality in the fruits. Trees against the back walls of lean-to houses are generally failures; but when the trees are allowed to extend and the shoots are trained down the roof they bear profusely, because the downward training concentrates the sap on every joint, so that they form fruit at nearly every leaf down to the base of the shoots, and the points of the shoots are ever pointing to the glass, so that the growth is thoroughly solidified as made, and the trees retain instead of casting their fruit.

## THE BEE-KEEPER.

### APIARIAN NOTES.

WINTER with its shortest days is now upon us, and for fully a month we shall be anxious for our bees to remain at peace within their hives; they should, therefore, be left undisturbed. If proper care has been taken to have them in a fit state for winter they will not be disposed to fly, even although snow lie about. Snow in December does not entice the bees out to their destruction, as it does after January. Where birds are troublesome to bees and buds of fruit trees they may be trapped; the sparrow and the blue titmouse are the only pests we have.



## SUPERS FILLED RAPIDLY.

Instead of waiting the prescribed two or three weeks after the bees have been hived I hive them into the supers, and if the day is fine (as it is only when the weather appears to be in a settled state I do this) I allow them to begin working in them a few hours. They are placed upon the hive they are to occupy, having a little comb, so as to induce breeding there, and so preserve the purity of the supers. By this departure from the common practice I have often secured supers of the greatest purity at times when they were not to be had otherwise.

## DIVISIONAL SUPERS.

These are very often used by me, although I am fully aware that full-sized supers are filled more quickly in proportion than small ones are. The latter are, however, more certain of being finished in a short spell of fine weather, and is one of the reasons supers are had from straw hives when not to be had from wooden ones.

In our variable climate it is a mistake to have much super space laterally. During a long continuance of fine weather bees will enter and store in supers placed anywhere about their hive, which, in the majority of seasons, they absolutely refuse to enter. Novices who have been favoured with a fine season or two at the start have not only misled themselves but many others who have followed the rules laid down for managing bees under their short but successful period, having had no knowledge or experience whatever of adverse seasons. The question of whether the nearly completed super should be raised on the top of an empty one, or the latter to be placed uppermost, has been fully discussed without everyone being convinced which is the proper way. Perhaps a little reflection on the bad seasons we have had will convince most that it is folly to interpose an empty super when there is no honey to gather, and that the more compact the comb is, and the more cosy the hive, the greater is the economy.

It is partly upon these lines I advise small supers, while they are much more easily handled in every respect than large ones. Small supers proper I have often commented upon. In this instance I refer to sections and section cases other than those which may be used in conjunction with division or dividing boards. For my hives I prefer cases that hold nine sections, whether they be 1 lb. or 2 lb. ones—that is, three rows running parallel with the combs below, and two of which cover the frames between the super protector, which gives double protection to the supers in protecting them from injury when in transit, and greater warmth by the double casing where it is most needed.

## HOW TO MAKE SECTION CASES.

This might serve as a pastime for amateurs during the winter evenings. Procure the wood, so that when seasoned it will stand nearly  $\frac{3}{8}$  inch broader than the height of the sections. For example, for  $4\frac{1}{4}$  inch by  $4\frac{1}{2}$  inch sections the sides should measure  $13\frac{3}{8}$  inches by  $4\frac{1}{2}$  inches bare by  $\frac{3}{8}$  inch thick, make a rebate in the bottom edge a  $\frac{1}{4}$  in and on; it is now ready to be nailed to the end, which must be of the same breadth by  $\frac{1}{8}$  inch thick by  $6\frac{1}{2}$  inches long. These are easily cut to length or breadth by laying a pattern on the top and cut by drawing an ordinary pocket knife round the pattern, lightly at first into the wood to be cut. Now nail with fine wire nails through the thin ends into the ends of the sides for bearers, pieces of wood the exact length to fill the rebate crossways by  $\frac{1}{2}$  by  $\frac{1}{4}$  inch full, and these nailed so as to catch the sections equally completes the case with the exception of end pieces to keep the sections square and tight to each other. They must be the length of the width of the case, by  $\frac{1}{2}$  by 3-16ths; four are required for each case one for the bottom at each end, and the other two for the top. The under ones should have a bevel on the face of the upper edge, so that the sections slip down easily and without hindrance. The top ones may be used to keep the sections firm endways.

The price of the wood for these cases, including two pieces 14 inches by  $6\frac{1}{2}$  inches by  $\frac{1}{4}$  inch, for covering top and bottom will cost about 2d. Heavier wood may be employed for the ends, but for an amateur would be more difficult to make. I used to have my cases made so that no nailing was required, but found that the foregoing plan was the most satisfactory, certainly the cheapest and readiest got at by the amateur.

When cases are employed of this style the small supers may be employed in conjunction with them, and when attention is paid to build them up to the bee's requirements, giving always plenty of room, but never much in excess, there will be, as a rule, few unfinished sections. When the bees have the two first cases well forward, lift the one on to the top of the other, and put the empty case or cases in their place. By doing this no vacuum is formed, and the bees being more concentrated work with vigour and satisfaction.—A LANARKSHIRE BEE-KEEPER.



\* \* \* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Preserving Orchid Flowers (W. V.).**—A method such as you require is described on page 516 this week.

**Everlasting Flowers (J. A. G.).**—You will find it difficult to remove any strong odour they may possess, but the majority are free from any scent of an objectionable character, and it would be wise to avoid using the strongest. Possibly if they were placed in boxes with Lavender or camphor for a time it might help to lessen the odour.

**Seedling Apple (J. B.).**—Your seedling is too much like the Wyken Pippin to be considered distinct, but the fruits you send are not equal in quality to the old favourite, which, like your variety, has "short stalks, and the fruit is not easily shaken from the trees by the wind." It is right to say, however, your samples were not in the best condition. We do not say the variety is identical with Wyken Pippin, but only that it closely resembles it, and is not so good.

**Hardy Climbers for Trellis (Northern Climate).**—Mixtures are seldom satisfactory, especially those comprising a number of varieties, and there are few climbers that will thrive in exposed situations on trellises, for they are always associated with other trees or objects from which they derive shelter as well as support. We advise you to have Honeysuckle and climbing Roses at the most exposed part, and these are very unsatisfactory in bleak situations. Clematis montana and C. vitalba are most likely to succeed. We had Honeysuckle (Caprifolium perelymenum) interspersed with Ayrshire and Boursault Roses on a similar trellis, and they were beautiful in June. The plainer the beds are for a mixture of shrubs and flowers the better. Those you sketch would answer very well.

**Coriander (W. W.).**—The leaves of this plant are used both in salad and in soups for their high and peculiar aromatic flavour. The seeds are used medicinally, and are considered soothing and stomachic. They are also sold by confectioners, encrusted with sugar. If required early the seed is to be sown thinly on a hotbed in February or March; and when 3 inches high the plants are ready for use. As they will soon run to seed another sowing must be made in April for a succession. This may be done in an open warm situation, in drills 6 inches apart, an inch deep, then covered over with light earth with a rake. When the leaves are 3 or 4 inches high, they may be gathered for use by cutting them off close to the ground. To have a supply all the summer a little should be sown every month, as it soon runs to seed. For winter use it may be sown in August and September on a warm border; and when cold weather sets in the plants must be hooped over and protected.

**Methylated Spirit for Destroying Scale (F. S.).**—This is not always safe to use, because it is mixed with spirit of tar, and in that state



may be injurious; but pure alcohol or spirits of wine is quite safe and effectual when carefully used. As a winter wash you could not have anything better than soft soap, 3 or 4 ozs. to a gallon of water, applied with a brush, dislodging the scale, and taking care not to rub off the embryonic figs, nor break off the points of the shoots. A solution of half an ounce of caustic soda and half an ounce of pearlash to a gallon of hot water may be applied with a brush in a tepid state, thoroughly washing every part, but not letting it run down, merely keeping the brush sufficiently moistened with the solution to insure the regular coating of the wood. These are for winter dressings only.

**Alnwick Seedling Grape Vine Unfruitful (A. M.).**—You do not say whether the Vine fails to show bunches, and is consequently sterile, or that showing fruit it fails to set properly for a crop. If the latter, as we suspect, the bunches should be brushed with a camel's-hair brush or plume of Pampas Grass when in flower, and after that apply pollen to the bunches from such free-setting varieties as Black Hamburgh, brushing them lightly with a camel's-hair brush charged from time to time with the pollen, which may be collected from Black Hamburghs when in full flower by holding a sheet of white paper beneath a bunch and gently rapping its footstalk with the finger. If the Vine does not show fruit we can only suggest that the wood be left longer in pruning—say, instead of pruning to one or two buds leave four to six, and always shortening to a plump eye on well-ripened wood.

**Tabernaemontanas (S. S.).**—The varieties of this useful plant produce their double white flowers nearly the whole year round. *T. coronaria* fl.-pl., is more adapted for spring and early summer flowering, while *T. camassa* produced its flowers in greatest abundance about August. This has been the character of large plants, and in order, if possible, to induce the first-named variety to flower during the winter cut it hard back, and after it had commenced growth it was pushed on rapidly, until a few weeks ago it was placed under a little cooler treatment. It is again in brisk heat, and has commenced showing a fair number of flower buds. Hard cutting back appears to suit them well, for our plants have made remarkable growth, and we intend to subject them to the cutting-back system annually, especially so if we can make them flower during the duldest months of the year by so doing.

**Pruning Young Vines (H., Surrey).**—As a rule young Vines do not make satisfactory progress when planted between others that have been long established in old borders, and are certainly less likely to do so when the canes are left their full length after planting. Those referred to ought either to have been shortened in the autumn, or the buds rubbed off them in spring down to a good one towards the best for encouraging strong growth. The best thing that can be done will be to cut down the canes at once to the best bud you can find not far from the ground. If you also remove some of the old soil from round the roots, and add fresh of a suitable character, you will have done what you can for the Vines, and if they do not succeed as is desired, you can scarcely be held responsible under the circumstances of finding them in the condition described. Your other question will be answered next week.

**Pruning Ipomæa Leari (M.).**—*Ipomæa Leari* is one of the best conservatory climbers; but it will be apt to suffer if the average temperature at night in winter be long below 45°, and especially if the main stem be near the glass of the roof, where it would be most quickly cooled by radiation on a frosty night. If the plant consist of one main strong stem, with flowering shoots coming from that main stem all the way, then each of these shoots may be pruned back now to within three or four joints or buds from the main stem. In spring, after winter is past, you may prune back to one or two buds, as it is from the shoots produced in summer from these buds that the flowering takes place. If the plant be not furnished with a stout main stem, it would be advisable to merely partly prune now and again in spring. Prune in such a manner as to leave a sufficient amount of buds to produce shoots regularly all over the plant; say, to produce a stout shoot, every 15 or 18 inches; and these will look best if allowed to grow downwards as dangles from the main stem and rafters. If your house be kept cool in winter it would be advisable to suspend the main stem 2 or 3 feet from the glass.

**Winter Treatment of Allamandas (R. S. B.).**—If they are required in bloom as early as possible in the season plants that have enjoyed a good rest in a temperature of 55° may be started. These plants may either be repotted before they are introduced into a warmer house or after they have broken into growth. We have potted them at both periods, and have found no appreciable difference in the results, and therefore prefer doing it before they are started. The plants should be turned out of their pots and the roots reduced, being careful to preserve as many fibry roots as possible. The soil should afterwards be soaked in tepid water and allowed to drain before potting. If the plants have been in large enough pots the same size may be used. If necessary to increase the size of the plants do not reduce the old ball so liberally, and transfer them into pots one or two sizes larger than they were resting in. They should be clean and liberally drained. The soil may be pressed as firmly as possible, and the plants then placed into a house with a night temperature of 65°. If they can be plunged in leaves or other fermenting material so much the better. The plants should be syringed twice daily, but no water will be needed at the roots before they start into growth. Use for a compost rich fibry loam and one-seventh of decayed manure. Plants that are growing in borders should have the surface soil removed and top-dressed with equal parts of loam and manure.

**Thinning Larch Plantation (T. W. R.).**—The Larch will now be suitable for stakes and various useful purposes, and the first thinning

should be effected as soon as practicable. The trees being planted so thickly, it will be necessary to cut away about one-fourth of the worst shaped and ill placed, or, if the trees are very vigorous and require more room for their healthy development, it may be necessary to thin out more freely, always bearing in mind that excessive thinnings are more injurious than beneficial; at the same time the thinning must be efficient, allowing top space for those that remain, so as to insure a sturdy growth. Where the trees have grown most they should be thinned most, and *vice versa*. At the next thinning, say in three years hence, the trees will be suitable for rails and general fencing purposes. Therefore it is not advisable to thin too severely at first, but whilst considering the ultimate good of the trees, keep in view the utility of the thinnings, as they may be of little use at first, but if left a little longer (without prejudice to those that would remain after thinning), their value would be considerably enhanced. Judgment must be exercised, removing in the first instance the most unsatisfactory in growth.

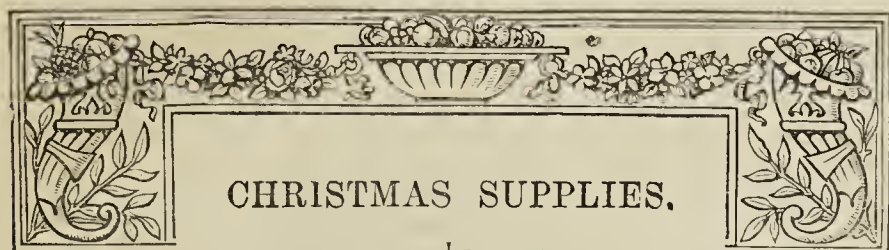
**Pereskia aculeata (R. P.).**—The plant of which you send a fragment is *Pereskia aculeata*, a member of the natural order Cactaceæ, and a native of the West Indies. It is chiefly grown as a stock for Epiphyllums, which are grafted on clean stems of the *Pereskia*, varying in height according to the uses for which the plants are intended. For plants in pots a height of 6 inches to 1½ foot is sufficient; but we have seen the stems taken to a height of 8 feet or more before grafting the Epiphyllums upon them. In this case the stems have been trained to the wall of a house, and the heads arched over a walk, the suspended Epiphyllums having thus a fine effect when in flower. The *Pereskia* itself is of little value except as a curiosity, and is easily grown, though seldom seen in flower. A compost of loam, sand, and small pieces of broken bricks, with a little well-decomposed manure, suits it well, and the temperature of a stove is the best fitted for it. Water must be carefully supplied during winter—indeed, very little will then be required; but whilst growing a larger quantity is needed. When your plant is large enough we should advise you to graft an Epiphyllum upon it, which you may easily do by cutting the stock to the required length, and then cut the upper part of the stem to a wedge-like point, taking a piece out of the base of the scion so that it will fit evenly saddle fashion upon the stock. This may be then secured with a piece of matting, and a union will soon be effected.

**Pear Trees Infested with Scale (S. S.).**—The scale will continue to spread, and ultimately will overpower the growth of the trees and render them unprofitable, and sometimes the insects kill the trees. The pests, however, sometimes disappear naturally, being destroyed by certain minute insects of the great division Hymenoptera, which are parasitic on the scale insects. Birds also destroy great numbers, the blue titmouse and long-tailed titmouse pecking off the "scales" and eating the eggs; but these "aids to cultivators" are not sufficiently numerous in gardens to prove of benefit, and the blue titmouse is too fond of choice Pears and Apples, pecking holes into them and destroying the best fruits, that its merits receive little consideration. Brushing the trees with whale oil when the trees are quite dry and at rest destroys the scale by closing the pores by which it breathes. That is a safe and sure method of destroying scale on Pear or Apple trees. Alkaline washes are also very effectual, especially the following:—Caustic soda and commercial potash (pearlash) half pound each dissolved in boiling water, then adding enough hot water to make 5 gallons of wash. This should be used as a spray on the trees whilst dry and when they are quite dormant, wetting every part thoroughly with the solution at a temperature of 100° to 120°. The trees, being against walls, are difficult to cover with spray on the under side of the branches; therefore unloose the trees and apply the solution with a brush, employing it weaker—that is, instead of diluting to 5 gallons dilute to 8 gallons, applying it hot, as before stated. This will bring off the scale, and if not used carelessly and excessively will not injure the trees. There is no need to prevent the trees fruiting for a year.

**Names of Fruits.—Notice.**—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (A. S. Brett).—We have recognised the box by your description. There was no letter in it. The Apple is not Worcester Pearmain, but Caraway Russet.

**Names of Plants.**—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. R. S.).—A good variety of *Cypripedium insigne*, somewhat like *Maulei*. There are many named varieties of this species now, and it is not difficult to select over a dozen with well marked characters. (P. G.).—*Iris Histrio*. (T. W. B.).—1, *Oncidium cheiroporum*; 2, *Odontoglossum coronarium*; 3, *Trichosma suavis*.





## CHRISTMAS SUPPLIES.

COMPARED year by year at the same period the collective supplies in our large central markets do not vary so much as might be expected. It is true that the seasons have some effect upon certain classes of produce, but this is met to a great extent by the increased facilities and speed of communication, not only with other districts of the same country but with distant lands, which contribute so largely to our requirements. Scarcity or failure of any particular crop in one place only, therefore, seldom has any material effect upon the chief markets, and even in the course of a few days it is astonishing what a change can be produced by telegraphic and other communication. Thus, on one market morning there may be a great scarcity of some special article, yet the next market may be almost glutted with it. This characteristic, common in some degree to markets generally, is especially noticeable in Covent Garden, which is undoubtedly the most representative market of horticultural produce in the world. But notwithstanding the variations in supplies in ordinary weeks there is such a concentration of effort to meet the enormous Christmas demands that the supplies are always large, and at no time does the market present a more uniform or more animated appearance than a few days before the great festival of the year. It is not merely interesting as a spectacle either, but many an important lesson may be learnt there if those "who run would read;" and if many of those who supply the markets but depute the selling to others would pay a visit occasionally, they might by close observation gain innumerable valuable hints.

In glancing at the leading characteristics of the Christmas supplies in Covent Garden, and passing for the moment the decorative material which occupies so important a position at this time of year, the fruits demand a few words. One of the most striking features to a stranger is afforded by the numerous auction sales of imported fruit, and it is a matter for surprise first as to how such quantities can be disposed of, and secondly as to what becomes of the home-grown fruits. In the main portion of the market itself, and in the spacious Floral Hall, thousands of barrels of American Apples have been received, sold, and dispatched within the past few days—bright, even, well selected, and well packed fruits that would command purchasers anywhere, the Newtown Pippins and Baldwins being the favourites, the former realising from 15s. to 16s. 6d. at one sale per barrel, which is somewhat less than is usual for this variety, as it generally leads.

Side by side with the American Apples in the other portion of the market were bushels of English Apples, and the contrast was almost painful; irregular, unselected fruits seemingly shot into the baskets without heed or care—handsome fruits and rubbish intermingled, with the result that a very low average only could be taken. Certainly there were exceptions, in which every care was manifest both in packing and selection, but unfortunately they were only the "exceptions" that proved the rule was the opposite. It is the one great defect of home growers, and however the culture may be improved or extended it will never produce adequate results until these cognate important matters receive due attention, and it is surprising considering how much has been said and written on the subject that more

effect has not been produced. Mr. Thomas Meehan has lately referred to the American system of packing in these words:—

"It is interesting to note how a very small fact, when clearly perceived, will lead to great commercial results. No one knew better than the fruit grower that when an Apple was bruised it would rot. When, therefore, Apples first became an article of commerce, and were packed in barrels, they usually arrived at their destination rotten because of the bruises they received in transit; but when it was discovered that it was the action of the atmosphere on the bruised portion which caused decay, and that a bruise, if it did not expose the interior of the Apple to the atmosphere, was of no great consequence, then the transportation of Apples became a business. We may now take an Apple out of a barrel, squeezed into squares, hexagons, octagons, and all manner of shapes, without the Apple suffering any material injury, because the pressure causing the bruise is of such a character as not to crack the skin; in fact, the great success of Apple transportation consists in pressing them thus tightly into the barrels. It is the exposure to the atmosphere of the interior portion of the fruit, and not the bruise in itself, which causes decay. This principle may perhaps in time be applied to other fruits. Recently fruits have been separately packed in paper, but possibly a slight pressure to the fruit in the case, as given to the Apple, which will pack them tightly together without causing the outside coating to crack, would do just as well as the paper enclosure."

Thoroughly good English Apples have been realising substantial prices, and at this time it is impossible to obtain sufficient; but it cannot be expected that poor English fruits will be purchased in preference to good foreign samples. It is rarely that patriotism goes so far as this, and it would surprise some to have seen indifferent specimens of Cox's Orange Pippin displayed at 6d. per dozen in the middle of December. Pears are more restricted in quantity, but French and Channel Island fruits are represented by fine samples.

The Grape business is important and rapidly extending, large quantities of the finest black Grapes in the market now being home grown, and here we see something of the style that is wanting in the hardy fruit department, for the Grapes are carefully packed, neatly set up, and reach the consumer in a really tempting form. Channel Island Grapes are also abundant, and the supplies of Almeria Grapes this year are coming to hand in exceptionally good condition. There is thus a wide range of quality to select from, the prices from 1s. 6d. per lb. upwards, some professedly English Grapes being as low as 2s. per lb. Pine Apples have been in request, and they have been imported by thousands. Indeed, a few days ago one consignment of over 6300 was received at Covent Garden, many being grand fruits which would not disgrace the best of British cultivators, and that would some years ago have realised fabulous prices. Now this aristocratic fruit is within the reach of nearly all classes. Oranges are uncommonly good this season, affording a pleasing contrast with those of last year, and they are now coming into the market in abundance, as also are the Nuts of all kinds which constitute so essential a part of Christmas fruit supplies.

Green vegetables have been very plentiful this autumn, and even now there is an unusual supply for the time of year, while the prices have been fairly good, this being one department in which the home-grower has little to fear from foreign competition, except as regards the early salading and Asparagus. Cabbages, Savoys, and Brussels Sprouts are good, while the ordinary root crops—Carrots, Parsnips, and Onions—are similarly satisfactory; but a large portion of the latter are imported and sold as Bordeaux Onions. A small quantity of Asparagus and Seakale is noticeable, and the early forced Rhubarb is also fairly plentiful from Yorkshire and elsewhere. Around London the latter is being taken up more extensively than formerly, and one market grower in the Mitcham district recently received a consignment of ten trucks (4 tons each) of roots for forcing, and five others will be required to complete the season.

Amongst what may be termed the decorative material the



Holly and Mistletoe stand pre-eminent, but this season the supplies are not so extensive as usual. The Holly has in most cases a fair quantity of berries and is nearly all home grown; the Mistletoe, on the other hand, is almost exclusively French, chiefly from the Apple orchards of Normandy, where it is said to yield a substantial return and not to injure the trees in any appreciable degree. Some years ago the Rev. F. H. Arnold seriously suggested that the culture of this plant should be tried in the southern counties.

"If Mistletoe can be sold in London at Christmas at prices varying from 10s. to 25s. or 30s. per crate, it may be queried whether it might not be profitably cultivated at home, instead of our obtaining such large supplies from abroad. It may be asked why should we be mainly dependent on France for our supplies of Mistletoe. Why, if it can be cultivated there, should it not be cultivated here, in the Somerset, Sussex, and Hampshire orchards and hedges, from which crates of this valuable commodity could be so easily forwarded to town without the cost of the Channel transit. Were I to buy a sprig of Mistletoe, with its bright white glistening berries at Christmastide, I must say that I would prefer it of home growth, and not have of foreign production one of the most ancient amenities in our English folk lore, which from the times of the Druids to present day has always been a favourite with our ancestors, is still so with ourselves, and will doubtless continue to be so when 'a thousand years are gone.'"

For cut flowers, again, we seem to be largely dependent upon our continental neighbours who are sending us from the South of France and Italy large quantities of Violets, Roses, Roman Hyacinths, early Narcissi, and White Lilac. Of home grown produce in this department Lilies of the Valley, Richardias, Roses, Camellias, Eucharis, Chrysanthemums and Orchids constitute the chief items. In the plants, Palms, Ferns, and others valued for their foliage preponderate, but brightly berried Solanums, forced Tulips, Lilies of the Valley, and Hyacinths are conspicuous.—C.

### SOLANUM CAPSICASTRUM WEATHERALLI.

THOSE who have a good stock of plants of this fine subject will find them of immense value during the festive season of Christmas, provided they are carrying a good crop of well-coloured berries; but I fancy many will have some difficulty in getting the berries coloured by that date this year, where the usual plan of planting the young plants in the open air during the summer months has been followed. I hear from various quarters that few berries have set this season, and those were small at the time the plants were potted up. All things considered I think it a much better plan to plant out in a pit or frame; the cultivator can then to a great extent be independent of the weather. During bright weather the lights can be left entirely off, and throughout dull or very wet periods they may again be placed over the plants, which will then be kept steadily growing.

Another advantage derived by adopting the frame system of culture is, that when planted out the lights can be kept closed and shaded, and by so doing enable the plants to start into growth more quickly, which is a distinct advantage, the great point to be aimed at being to get a good crop of berries set early, so that they may ripen by the required time. I have proved this season Solanums will bear without injury a much greater amount of heat than I had previously considered they would do. Our plants when lifted from the pit they had occupied during the summer months were thickly studded with berries; they were potted up by the end of September, and placed in a pit, where they were kept close, but received no fire heat till well established. By the end of October I found I should require the berries to be perfectly coloured early in December, so heat was applied in such a way as to keep the hot-water pipes constantly warm, a little air being left on night and day. This treatment was continued for a couple of weeks, and a slight tinge of colour was beginning to be visible on the majority of the berries; but I considered the treatment they were then receiving would not effect the desired result. The temperature was then gradually raised till it reached 60° to 65° at night, with a rise of 5° in the daytime, air being kept on constantly. The tops of the plants were only 24 inches from the glass, and they were well syringed once a day. This treatment was persevered in, and we had the satisfaction of getting the berries well coloured by the end of the first week in December. While so much fire heat was given green fly gave considerable trouble, but this pest was eventually overcome by regular fumigations once a week, and occasional syringings with a solution of softsoap.

While being subjected to so great an amount of heat the plants grow very freely, and if allowed to go unchecked the abundant growth has the effect of retarding the ripening of the berries considerably, and also prevents many of them from being fully seen. It is, therefore, an excellent practice to pinch out the majority of the young shoots as soon as the berries commence colouring; the light and air is thus let in to every portion of the plant, which undoubtedly has the effect of accelerating the colouring process, and also enables the berries to be fully seen when wearing their bright scarlet colour. If this operation is performed at the time indicated other young shoots will be quickly formed, which, by the time the plants are ready for use, will furnish a sufficient number of leaves to show up the berries to advantage, and hide the parts to which the former shoots were stopped.

As soon as the berries show signs of shrivelling some of the most promising should be gathered and placed in a dry position, and when thoroughly ripe, which should be the case in about a fortnight, the seed should be removed from the husk, and after being spread out thinly for a few days may be sown thinly in shallow boxes and grown on in gentle heat till May, when if a pit or frame recently cleared of bedding plants can be devoted to them, with proper attention they will make fine plants, and be ready for lifting by the time the frame is wanted for bedding plants again in September. A good loamy soil with a little leaf soil added suits Solanums admirably. The great point is to give the individual plants plenty of room to develop into shapely plants without crowding each other, and with liberal treatment in the matter of watering they will require to be planted 1 foot apart each way. Although the seedlings may be small when planted out do not be influenced to place them closer together, or before the growing season is over any good cultivator will perceive the common mistake of planting too closely has been made.

A few of the old plants should be retained, as they make capital specimens for filling large vases. They should be pruned back as soon as the berries are past their best, so as to give them a long season of growth; and when the young growth is a quarter of an inch long shake out and re-pot in pots two sizes larger, and, of course, the plants should be kept in a close house or pit till they have recovered from this operation, after which, an ordinary greenhouse temperature will be found to suit them. Unless the summer is very hot the plants will well repay for being kept under glass throughout the year, although I have seen excellent specimens produced by placing them in the open air during the summer months.

The uses to which well grown plants of this showy Solanum may be put are manifold. For placing in vases they are thoroughly seasonable and attractive, and when associated with flowering plants they supply a colour not generally too plentiful in the depth of winter, and single berries with a small shoot attached look effective and novel when arranged with Roman Hyacinths in vases or shoulder sprays, and one of the most charming and suitable arrangements for a Christmas dinner table can be worked out by using Solanum plants of various sizes, standards and bushes being interspersed. The plants should be turned out of their pots and placed in saucers, the surface of the soil and the receptacle holding it being entirely covered with Lycopodium denticulatum. A gracefully curving scroll design should also be worked out with small sprays of the same Lycopod, and be dotted at intervals with Solanum berries. Although this arrangement will not require a single flower to be added, the effect produced will not be deficient in either beauty or brightness, and the cheerful scarlet of the glossy berries will instinctively remind each beholder of Christmastide.—H. DUNKIN.

### FRUIT GROWING IN COLORADO.

AT the Conference on the Culture of Fruit convened by the Royal Botanical and Horticultural Society of Manchester, held in Manchester on the 21st October, I see by the English papers that the Earl of Derby, who presided, said, as to fruit growing in England:—

"As to the return, no certain average can be taken where soil and climate vary so widely. The figures which I have obtained relate to Kent and come from good authority. Strawberries are taken as giving a gross return of £27 per acre and a nett return, after all expenses are paid, of between £6 and £7; Raspberries, £21 gross return and £7 nett profit; Currants, £30 gross, nett £11; Apples, Plums and Cherries, £25 gross returns, nett profit about £5. But these last, especially Apples, give no returns for five years at least. The average of several seasons has been taken, so as to allow for losses as well as for exceptional gains."

As the readers of the *Journal of Horticulture and Home Farmer* are naturally interested in fruit growing in other countries and the methods adopted and profits made, and perhaps some of



them are inclined to emigrate if they could only get reliable information as to some one fruit-growing district, I submit for their perusal the following particulars, collected during the past summer and autumn from practical fruit growers in Colorado, in each case giving the name and post office address of the fruit grower, and giving the amounts in English instead of American money, so that they can be more readily compared and contrasted with the figures quoted by Lord Derby. I abstain from any comment, as the particulars given speak for themselves.

Mr. C. J. Coombs, address 2,332 Fifteenth Street, Denver, whose orchard and garden is five miles west of Denver, has a splendid five-acre orchard of Apples, Pears, Plums, Strawberries, Blackberries and Currants, has sold his crop this year for £1200, the working expenses being £300.

Mr. J. Green, address, Villa Park Post Office, five miles west of Denver, has two acres of Strawberries which averaged this year 6000 quarts to the acre, average price per quart being 6½d. One acre of Blackberries brought him £75 this year. The balance of his five acres is in Apple and Pear trees set out three years ago, and one of his Ben Davis Apple trees had 200 Apples this year.

Mr. W. A. Benedict, P.O. address, Denver, has a Strawberry and Blackberry tract six miles north of Denver, which averaged him £100 per acre.

Mr. E. H. Sumner, Post Office address, Denver, has 7½ acres in small fruits, about six miles north of Denver; they yielded over 30,000 quarts last year, selling (in this market) for from 10d. to 1s. a quart. The Apples averaged him £85 an acre.

Mr. Elwood Easley, Golden, Jefferson County (twelve miles from Denver) says:—

"I have about 40 acres in cultivation, of which 20 acres are in fruit and vegetables, and took £900 nett from it last year; one acre of Cherries yielding £110 on sixth year from setting out."

Mr. David Brothers of Wheatridge, near Denver (an English farmer from Suffolk) who came here in 1868, says:—

"A man can make money farming on irrigated land in Colorado, if he can anywhere on earth. The resources of this State are wonderful enough when the truth is told; no need to exaggerate. I have a tract of about 25 acres Apples at my place, five miles west of Denver, from which I took £500 this year; but these are all young trees yet, and will increase, of course, as they grow older. Yes, I had rather raise fruit than farm; there will be more money in it."

Mr. C. T. Wilmore, also of Wheatridge, near Denver, an experienced grower of small fruits, assures me that his average nett returns per acre are—Blackberries £60, Strawberries £80, Currants £40, and Raspberries £60; selling his fruit retail in the Denver market direct to the consumer.

Mr. James Ackerman of Hygiene, Boulder County, writes that he is raising all the tree fruits except the Peach and Apricot, that his nett profits are £40 an acre, and that he gets most profit from Apples, Pears, Plums, Raspberries, and Currants.

Mr. W. B. Felton of Canon City, Fremont County, President of the Colorado State Horticultural Society, writes:—

"It is easy to ask questions which it would take a good deal of time and space to answer fully. For instance, 'At what age do trees begin bearing in Colorado?' Varieties differ in that regard so materially that the question could only be answered by one who had had experience with many varieties. With Apples, for instance, the Ben Davis will bear the fifth or sixth year as full a crop as the trees should be allowed to bear. It is the same as to Missouri Pippin. Wine Sops will bear, but not so full a crop, at the same age, while the Red Astrakan and Northern Spy will not bear a crop till eleventh or twelfth year; other varieties coming in between. But to answer the question generally as to Apples, I would say six years. As to Pears, there are dwarf and standard. The dwarfs, many of them, bear the next year after being set out, while standards do not bear for six, eight, or ten years, according to variety. Bartlett's, Clapp's Favourite, Sheldon, Beurré d'Anjou, Seckle, and other varieties (standards) gave me a good crop the seventh year, while I have some varieties that are full of fruit buds now for the first time, the eleventh season. For a general answer as to Pears (standards) I would say that they are from one to two years longer coming into bearing than Apples. Some varieties of Plums and Cherries commence bearing right away, while others are four or five years getting to it. The amount of fruit on a tree before it has been out long enough to attain size to hold a crop does not amount to anything as a crop. It is simply a curiosity. Therefore in speaking of trees bearing a crop it would be safe to say from four to ten years according to kind and variety."

"What do you consider a fair average yield per acre in money for a Colorado fruit orchard at mature age? That is a poser. Everything depends on the climate, varieties you have, the cultivation given, and the market. I can give you my experience. I have 10 acres of fruit that was set out ten years ago now—5½ acres Apples, 1½ acre Pears, about ½ acre of Peach, Cherry, and Plum trees, 1½ acre of Grapes, and about 1 acre of Strawberries, with a few Currants, Gooseberries, Raspberries, and Blackberries along the fences. In 1889 I sold the crop for a little over £1200, the expenses being about £480. In 1890, which was an off year for many varieties, the crop sold for £640, expenses £260. This year I have prospect for a £1600 crop. An orchard in bearing is

worth what it will pay—a profit of 10 per cent. on taking an average of two years. We never have two full crops of all varieties in succession. While the off years are not so marked in Colorado as in the Eastern States, yet there is a difference. I know of no diseases that affect our fruit trees here. We have the Codlin moth that makes wormy Apples and the leaf hopper that injures the Grape crop, but neither affect the tree or Vine. The conditions in the different fruit sections of Colorado are so varied that a general answer cannot be given as to what varieties are most profitable. Here at Canon City I believe the Apple to be the most profitable in the long run. Pears would be more profitable than Apples, but as they bloom earlier are more liable to damage from late frosts, and therefore are more risky than Apples. All kinds of fruit are profitable in Canon City except Peaches and Gooseberries. Peaches are not reliable. Gooseberries bear well, but do not sell well, and cost too much to pick. If an orchard is handy to express (parcel company) Strawberries and Grapes are good paying crops, also Blackberries and Black Raspberries. We do not raise Red Raspberries at Canon City because we would have to cover them in winter. They always pay well where they do well."

Mr. W. B. Osborn of Loveland, Larimer County, where he has a fine orchard, and who is the Vice-President of the Colorado State Bureau of Horticulture, writes:—

"In regard to the age that trees begin to bear in this country, &c., I answer, Earlier than in any fruit country that I have ever been in. It depends much on the variety of the Apple, Plum, or Peach. Some varieties of Apples will begin to bear at four years old from root grafts. Some varieties of Pears will do the same. Some varieties of Plums at two years old. I have them that did so."

"I believe a fair average yield per acre in money of an orchard well cared for at mature age might safely be put at £60; many acres more. The cost to produce that much from beginning depends upon the value of the lands, &c. As an investment per acre, I will answer in this way. Plant a healthy three-year-old tree this spring, and if it does well next spring you can count quite safely the tree to be worth 4s., the second year 8s., and so on until it is ten years old, £2. This can be done with well selected varieties with good careful cultivation. If eighty trees to the acre it brings it up to £160 per acre. Now deduct £40 per acre for unprolific trees and other disadvantageous things, and you have £120, which you might count on in a fruit season. An orchard, as an investment, can be made to be worth £60 per acre per annum."

"As regards diseases, or climatic influences that are liable to prevent a full crop, we have had a little touch of twig blight in Larimer County, which has done some damage, but there are more trees planted this year than ever before. The climate is all right. If locality has proved favourable for fruit by experience, that is the place to plant. To explain, the Peach is not at home with us in Larimer County, but the Apple, Pear, Plum, and small fruits are. So we need not plant the Peach; but in other localities in Colorado it is at home. Apples, Plums, Peaches, and Pears will, in my opinion, do as well in some localities in Colorado as in any State in the Union, California not excepted, and I am fully convinced that fruit trees bear younger and are more prolific in Colorado than in any fruit country that I have ever visited."

Mr. H. R. Brown of Arvada, Jefferson County, about six miles from Denver, writes:—

"In regard to the age at which Apples begin to bear in this district, I would say at from five to six years, occasionally sooner. As to the value per acre in money, that depends very much on circumstances, but I think, judging from the age and yield of my trees, 200 barrels, per acre would not be over-estimating it, and as the price ranges from 14s. to 24s. per barrel here, you can easily get at the approximate value."

"As to the cost of production that also depends very much on circumstances. Cultivation, pruning, watering, and picking would not exceed £15 per acre. As to the cost of marketing and barrels, that would depend on the nearness of the markets and facilities for reaching them. I would consider a bearing orchard anywhere near a good market very cheap at £200 per acre. I do not know of any fruit more profitable than the Apple for extensive culture in this district. I have great faith in the future of Colorado as a fruit-producing State, and believe in the near future it will be one of the leading fruit producers of the Union."

The orchards and gardens owned and operated by the foregoing gentlemen are all on the eastern slopes of Colorado, but the instances now quoted are all from the western slopes of the State.

Mr. C. W. Steele, owner of the Hopedale Fruit and Vegetable Gardens at Grand Junction, Mesa County, writes:—

"Some varieties of Apples bore a few specimens at three years of age. Notably the Missouri Pippin, Ben Davis, Rome Beauty, and Yellow Transparent bore at four years of age. My orchard at five years (four years from planting trees one year old) was profitable, though many varieties were not in fruiting. Peaches and Plums, Apricots and Nectarines, came well into bearing two years from planting. No trees in this valley have reached mature age. I have sold 100 lbs. of Peaches from a single tree of Hill's Chili Peach three years after planting, bringing in the Grand Junction Market 5d. per lb. The same trees this year, five years after planting, promise 200 lbs. per tree. Other varieties have done quite as well. Contracts are made for Peaches delivered in



Grand Junction at 24s. per cwt. At 150 trees per acre parties interested can do their own figuring. My Peach trees, six years from planting, are now full of bloom.

"The cost of planting varies greatly. For instance, Apples, fifty trees per acre, cost £6 6s., while an acre of Pears, 18 by 18, 134 trees at 1s. per tree, cost £6 14s. per acre for the trees alone. I make the product of the land, by cultivating between the rows, bear more than all expenses of interest, taxes, and care of trees until the orchard comes into bearing. An orchard of Pear trees should be worth at ten years of age £300 per acre, Apple trees £120, Peach and Plum at five years £120, Apricots and Nectarines at five years £100, Prunes at five years £160.

"This is the best all-round fruit country with which I am acquainted. No wormy Apples as yet, and I trust the fruit growers, by 'spraying' their orchards, if they should appear, will keep the codlin moth subdued.

"The great tendency of fruit trees with us is to overbear, and some varieties must of necessity exhaust themselves if thinning the fruit is not practised. I think the culture of the Pear for long shipment is to be specially recommended, and our dry climate offers superior facilities for drying fruit. I think the Apricot, and more especially the Prune, should be largely planted for open air drying.

"I have answered, in a general way, your questions. To tell all the profits of fruit culture in Grand Valley would not do. People must come and see for themselves to realise the great advantages we possess over California in freedom from insect pests and nearness to market, making, as I believe, a bearing orchard of ten acres in our district realise as much nett profit as a California orchard of forty acres of the same age and the same varieties."

Mr. G. B. McGranahan, proprietor of the Garnet Fruit Farm, near Delta, in Delta County, writes:—

"My orchard is not for sale. I have twenty-six acres now set to fruit, and £4000 will not buy it. I have never had a failure of any kind of fruits since old enough to bear. I had about ten tons of Grapes this season on 1700 Vines, 250 bushels of Peaches on ninety trees which brought from 3d. to 7½d. per lb. As there are no orchards that I know of being offered for sale, it is pretty hard to say what they are worth, but the Eastern and California criterion is that the land set to standard fruits is worth the third year after setting £1 per tree, which in Apples (fifty per acre) set 30 feet apart, would make a value of £50 per acre, in addition to the value of the intervening unimproved land. In Peaches (170 trees to the acre) this would be £170. I had Peach trees, set five years this season, that produced from £4 to £6 each.

"Mr. A. M. Olds, one and a half mile from Grand Junction, has ten acres of fruit in bearing, for which, I am informed, he refused this summer £1600. If fruit lands in California that bring a revenue of £40 per acre per year (fruit selling from £4 to £6 per ton) are estimated to be worth, and sell for from £200 to £400 per acre, does it not look reasonable that our lands are much undervalued, when we consider the fact that we in Colorado receive for our fruits from three to five times as much as the California growers receive for theirs?"

Such is the experience and testimony of practical fruit growers in Colorado, and as neither they nor the writer have any lands to sell, the only object of this letter is to show English readers what can be done here, and perhaps the interesting character of the information and the desire to be explicit, will excuse the length of this communication.—THOMAS TONGE, *Formerly of Manchester, England.*

### TWIN BOILERS.

WHERE opportunity occurs I should strongly advise everyone to put down twin boilers, especially where all the houses are heated from one stovehole. The boilers can be worked during alternate weeks, or jointly where necessary, in the case of sharp frost or continuous cold winds in the spring where the position is an exposed one. It is surprising what a difference two or three shovelfuls of fire will make in the second boiler to the heating of the whole hot-water pipes. Instead of the water becoming cold when returned into this boiler by the circulation from the one in use, the small amount of fire maintains it in a warm state; indeed by the economic use of two fires a saving in fuel is effected in spells of bad weather. More fuel is required to maintain the heat with one boiler than with two properly managed.

But my chief aim in recommending the use of two is in the case of a breakdown, such as we have just experienced. Our boilers, saddle with waterway back, were fixed thirteen years since; one of them a short time since developed a crack at the bottom, no doubt mainly caused by sediment from our chalky water settling there—the lowest place; and this leads me to say that all saddle boilers should have a draw-off tap fixed to each side, by which means the boiler can be thoroughly rinsed out at least twice each year. Many boilers of this pattern have but one such tap. The opposite side cannot then be cleaned thoroughly out. No matter how the water is rushed into the boiler by turning on the valves, a certain amount of sediment will remain at the bottom, which

prevents the water coming in contact with that part of the boiler, causing it to become unduly heated and burnt, and which in time develops a crack, which means removal.

The chief advantage gained by the use of twin boilers is that the heat can be maintained in the houses all the same while the necessary repairs to the other are being effected, which means a lot in some cases, and at this time of the year especially. All boilers of this kind should be provided with valves on both the flow and return pipes, which when closed will enable the remaining boiler to provide heat. Even when the flues which pass over each boiler, separate of course and connect at the back into the main flue which leads to the chimney, have to be interfered with, temporary arrangements can be made to admit of the fire being employed. In our case the fixing of a new boiler in the place of the defective one, by the aid of an iron pipe 6 feet long and 9 inches in diameter, we were enabled to construct a temporary flue, so that with the exception of a few hours one day while the last few joints were made, and the water had to be drawn off to enable the mains to be connected, we were able to maintain heat everywhere, which could not have been the case for at least four days had we not possessed twin boilers of the same pattern.—H.

### FEEDING PLANTS IN POTS.

THE solid (mineral) parts of plants, as shown by the analysis of their ashes, is very small, and the quantity of earth required by each tree or plant depends on the component parts of the soil in which the trees are grown. This was demonstrated by the researches of the younger Saussure, and taken advantage of by T. A. Knight, Esq., for growing fruit trees in pots for experimental purposes. The late Mr. Thomas Rivers, acting on the same lines, proved that fruit trees could be kept healthy and fruitful over many years in pots without change of soil, though he also practised top-dressing and partial renewal of the soil, as better enabling him to attain greater excellence in the fruit and increase of plant without enlarging the rooting area—shifting into larger pots. This system has been extended by his son, Mr. T. Francis Rivers, and is practised on a large scale at the Sawbridgeworth Nurseries, Herts, with almost every description of fruits calculated to afford interest, enjoyment, and profit.

The purpose of soil seems to be that of permitting plants to fix themselves firmly in the earth, to afford them a regular supply of water, and a sufficient quantity of organisable matter. This is proved by the rapid growth of plants in pots, the small quantity of turfy loam, or soil enriched with manure, leaf soil or other substance, sustaining them until it becomes exhausted. Thus a Vine eye, inserted early in the year, and the plant shifted into its largest pot in June, produces a cane in a 10 inch pot with firm, hard, ripe wood, and eyes like nuts by August, and capable of producing Grapes the following year of little less weight than that of the soil in which the Vine is growing when deprived of organic matter and water. Mr. Knight states that he "grew a seedling Plum stock in a small pot, which attained a height of 9 feet 7 inches in a single season, which is, I believe, a much greater height than any seedling tree of that species was ever seen to attain to in the open soil." This is conclusive proof that Mr. Knight used a much richer soil in potting his seedling than a similar one would have had in the "open soil," where supplies must be drawn from a large extent and depth, which is sufficient to account for the discrepancy. But be the soil ever so rich in available plant food the stores of it in a small pot must necessarily soon become exhausted; and the size of the pot, the increase of rich material would need to be frequent and considerable to sustain growth in the tree or plant equal in future seasons to that attained by it in the small pot in the first year, otherwise the plant must become stunted and dwarfed—a mere pigmy of the type. Soil exhaustion, however, is only relative, for the seedling Plum stock would only exhaust the soil of certain elements—potash, soda, magnesia, lime, phosphoric, sulphuric, and silicic acids, with peroxide of iron, some more than others, and of all some, causing the seedling Plum stock to languish, yet the soil is practically rich, fertile for another plant. All the same it is for ever rendered sterile as a soil for the Plum, and it can only be made fertile by restoring those substances to it which have been abstracted from it by the Plum, and become fixed therein—the wood and bark.

To sustain the soil in fertility manure is given in two forms—solid and liquid. There are two kinds of the former—1, bulky; 2, concentrated. The bulky comprises stable and farmyard manure, animal and fowl manure, alone or mixed with vegetable substances, as straw, hay, and moss litter; leaf soil, vegetable refuse, turf parings, and composts. These are used as a mulch or top-dressing to the larger-growing kinds of trees and plants,



especially fruit trees, quite as much for the purpose of encouraging surface roots and inciting the emission of active feeders as for enriching the soil.

The concentrated or artificial manures contain as much manurial matter and readily available plant food in as many pounds as is contained in as many hundredweights of stable or farmyard manure, and in a form productive of the best results in the current crops. This is because they are soluble in water and at once taken up by the roots, assimilated by the leaves, and stored in the fruit, wood, and buds for next year's crop. Suppose a quart of pigeon or fowl manure—the richest in ammonia—is applied to a square yard of ground, it at once absorbs moisture from the air, and the ammonia becomes volatile and takes to itself wings. If the application be followed by moist weather the manure will be saturated and its volatile matter be washed into the soil, and at once be available as plant food, the soil holding it until the roots abstract it therefrom. There is a great difference between applying manures to benefit the trees and using them so that their fertilising properties are wasted.

But instead of applying the pigeon or fowl manure in solid form it is formed into liquid—say  $2\frac{1}{2}$  gallons—ten times more than the solid; the whole of the ammonia is then placed in the soil without loss of time or waste of substance. One remarkable thing about these manures is that one kind pursued continuously produces a sort of surfeit, and changes, with alternations of clear water, are advantageous. It is a mistake to be always giving liquid manure and surface dustings, for it amounts to frittering away plant food.

The plantsman mixes phosphatic and potassic elements through the soil used in potting, and troubles no further about the plants as regards feeding until he wants to get enlargement and fix some desirable property in the flower. The fruit-grower makes sure of his crop as far as can be determined by promise in the shape of buds, and then applies manures that will act simultaneously with the feeders that are pushed to sustain the setting fruit, following this up with another dressing when the fruit is half swelled, whereby it is enabled to perfect, and thus secures a maximum of benefit from the smallest means, because given at the time when the trees display the greatest degree of health and luxuriance, and are most benefited by abundant food. Trees treated in this manner seldom give indications of over-feeding; but strewing phosphatic and potassic manures in highly soluble form when they cannot be utilised serves to produce sterility.—G. ABBEY.

## THE FLOWER TRADE IN PARIS.

[Notes at a Conference held at the Hall of the Association Française pour l'Avancement des Sciences by Mr. H. L. DE VILMORIN.]

(Continued from pages 90 and 157.)

If the flowers which are sent to the "Halles Centrales," and other special markets constitute the largest part of the daily arrivals they do not represent the whole quantity that reaches Paris, nor do they include all the best. Nearly all the choicest flowers and plants go direct from the producers into the hands of the shopkeepers. The latter now constitute a numerous class, increasing every day. The shop windows, so prettily and tastefully dressed, so attractive, particularly in the evening when brightly illuminated by the fairy electric lights which peep out of the flowers, contribute materially to embellish the streets and boulevards of the city. It is difficult to estimate the exact number of florists. A directory, which certainly does not include them all, mentions about 200, whereas it only named 104 in 1880, and forty-five in 1870. But if we judge the whole city by the Boulevard St. Germain, where at least eight florists are established and only one is mentioned in the directory, we may say, without exaggeration, that their number in Paris is about 500, and a proof that the business is yielding a satisfactory return is afforded by the fact that the number is annually increasing.

Is it not a delight to pay a visit to the charming, well lighted shops, where, on entering, a delicious odour strikes you? But the chief attraction is for the eyes. On every side of the windows, on shelves and stands, vases or hanging baskets are exhibited, fresh, bright, graceful and perfumed. The Palms and large Ferns, whose fronds reach the ceiling, shelter the handsome Azaleas and forced Rhododendrons, the Dracænas with their coloured leaves, the charming Bouvardias and Stephanotis, the Clivias with their broad ribboned leaves and orange flowers, and the Poinsettias so beautiful with their brilliant scarlet bracts. In the high narrow vases sprays of white Lilacs alternate with bunches of Safrano or Souvenir de la Malmaison Roses. In the windows between the small symmetrical Araucarias and Cycas are bunches of Hyacinths, Anemones, Narcissus, &c., according to the season, whereas a number of varied

receptacles, dressed with the most refined taste, contain the forced bulbous plants, Lily of the Valley and Cyclamens, Bromeliads, such as Tillandsias, Vriesias and Aechmeas, with Epiphyllums and Sedums or Begonias, garnish the hanging baskets. Everywhere are the beautiful and fantastic Orchids, which are taking first rank for floral decorations; and everywhere the greenery of the Selaginellas, Ferns, and Isolepis combine agreeably with the brilliant shades of the flowers.

Towards Christmas or New Year's Day is the time when the shops of the florists are in all their splendour. For the Parisian florists there is, however, no absolutely slack season. The whole year through there are birthday offerings and festivities, and receptions or entertainments afford opportunities for floral gifts, bouquets, baskets, and decorations of all kinds. In the spring and in summer the Iris, Gladiolus, Lilies, Pæonies, Foxgloves, perennial Larkspurs, and large Poppies furnish from the open ground a large contingent of flowers of grand effect. But the influence of the seasons is far less felt by the shopkeepers than by the street vendors. The former supply the wealthy, who willingly pay the prices of luxuries, and the money enables them to heat glass houses and hotbeds by means of which we can increase the productions.

As intimated above, the shop florists receive their supplies mostly direct from the producers, but they also secure their requirements at the Halles or in other markets. One of their principal duties is setting up the materials which are furnished by the gardeners or horticulturists. The taste and talent of the Parisian florist is seen in the arrangement, the combination and contrast of the colours, their light, thin, and neat disposal affording a saving of materials, give at same time a more graceful appearance to the whole. One should think that our bouquet artists know how at will to fix air amidst the flowers which they set up or group.

It is usually in the afternoon or in the evening that the flowers reach the florist from the producer's hands. They are immediately unpacked, sorted, and displayed either in the window or in other floral decorations. All are placed in water during the night, and employed the following day when duly refreshed.

The ingenuity by means of which they make up for what the flowers lack in sturdiness of habit, size of stem, and boldness of structure and growth are infinite. The reeds which lengthen, the imperceptible wires which support, and the small bundles of moss are all employed by turns or together. The more handsome flowers are the easier is the florist's work, so that in the costly or aristocratic bouquets the highest art is shown in the most perfect simplicity. The ribbons serve in a large measure as companion to the flowers, and if some florists make a too free use of them, yet with the majority Chevreuil's studies have evidently helped them to associate the colours tastefully and harmoniously.

Besides the sale of flowers and plants, the florists undertake for a sum agreed upon for the whole season to decorate apartments. They have numerous customers of that class, but most probably only a few who are disposed to pay £1000 for that service—a sum which, some affirm, not to be extraordinary in New York City.—(Translated by EUG. SCHAEFFEL, *Paris*.)

(To be continued.)

## MARECHAL DE COUR PEAR.

I WAS pleased to notice in your last issue a good word for Maréchal de Cour Pear. It is certainly one of the deceptive varieties while in the fruit room to those who are not acquainted with its exquisite flavour. This, with Winter Nelis, are two of the best Pears for flavour and bearing qualities with which I am acquainted. The Maréchal is perfectly at home either as a pyramid or against a wall; indeed, it makes one of the best pyramids I am acquainted with, bearing well nearly every year; but this time unfortunately it was overtaken by the memorable Whitsuntide frost, being at that time in full flower. Consequently we had a very light crop of fruit.

I am of opinion that this class of Pears will ultimately take the places which are at present occupied by Duchesse d'Angoulême, Pitmaston Duchess, Beurré Diel, and other fine looking Pears, but which have no other qualities to recommend them. On more than one occasion I have seen the Pitmaston placed before Marie Louise at exhibitions, but I fail to see why this should have been in most of these instances. Certainly the Duchess has been of enormous size this season, and it assumes a very attractive colour, but in my opinion most of its qualities end there. With me it is very gritty and devoid of flavour. Certainly public taste points to size and appearance in the present day. An instance of this has just occurred. Latterly we have had some rather large shooting parties staying here, and having some fine bunches of Gros Colman



Grapes hanging I was told to take these to the table while the company was staying at the house; and great was the praise, not only as to the appearance, but the flavour was pronounced to be first-rate.—ONE FOR QUALITY.

### HARDY GLADIOLI.

I HAVE seen, under this heading in two of the gardening papers, a description by Mr. W. E. Gumbleton of the new varieties introduced by M. Lemoine of Nancy, and as I think the designation "hardy" a misleading one, I think that my experience may serve as a warning to others who may have been under the same illusion as myself.

These Gladioli are of two sections—what are called the Lemoinei group, and the Nancianus, the former being the result of a cross between hybrids of *gandavensis* and *G. purpureo-auratus*, and the latter a more recent introduction, a cross into which *G. Sanderianus* has been introduced. With regard to the latter, although I have grown a couple of them, I do not wish to say anything, my experience not being sufficient to add any weight to my words. It is with the former, the Lemoinei section, that I am best acquainted. I have grown some of them for the last ten years, and have from time to time added a few, my last bulbs being those of the lot sent out in 1889, including *Dugeuslin*, *Lamarek*, *Etoile polaire*, and *Venus de Milo*; for as further acquaintance with them did not enhance my opinion of this beauty, I declined getting any more, and am very glad as the result proved that I refrained. Now although Lemoine heads his list of the varieties of the Lemoinei type with the word "rustique" or hardy, yet in the description of them which follows he recommends that they should be afforded a little shelter in winter, while MM. Vilmorin, Andrieux & Cie. in their catalogue of Gladioli describe them simply as "*Glaieuls à grandes macules*," without any reference to their hardiness. There was one of their recommendations that they could be left in the ground all the year, another was that they came into flower early in July before the hybrids of *gandavensis*, for in respect of beauty they, in my opinion, can never for one moment be compared with the *gandavensis* section. Take for example *Venus de Milo*, the best white that has been raised, as far as I know, in that section, and compare it with *Mont Blanc*, *Enchanteresse*, or *Burrell's Snowdon*, and I fancy that there would be little difficulty in an unprejudiced mind in deciding which was the more beautiful in length and closeness of spike. In purity of colour and size the superiority I think lies with the *gandavensis* flowers. The matter of hardiness is of course a relative character, but knowing how cold it is at Nancy, I concluded that if these hybrids could stand that climate they ought to be hardy in most parts of our islands. A plant or bulb may be hardy in the south of Ireland, in the south-west of Scotland, and in the Isle of Wight, and Devonshire and Cornwall, which loses that character in other parts of the kingdom, their other quality of being in advance of *gandavensis* section in point of flowering, seems in the newer varieties to be very questionable; in fact, I imagine that the more they are improved in the character of the flowers, the more, *i.e.* of the *gandavensis* blood they get into them, the more do they partake of the other characteristics of that section.

It has been, perhaps, somewhat hastily assumed that *G. purpureo-auratus* is itself hardy. I do not find it placed in any of the lists of hardy perennials, and as it is a native of Natal it is likely to be one of those provoking plants which are nearly hardy, but which, like many of the New Zealand plants, succumb to our winters. I should like to know whether anyone has found in the colder parts of our islands withstood last winter.

My experience of the two sections of Lemoine's hybrids has been this. I have some of them six or seven years, and others were added from year to year. They were never taken up out of the ground, the soil of my garden being of a rich, light, alluvial character. They flourished well, increased rapidly, and although, as I have already said, they did not appear to me so desirable for the garden as the *gandavensis* hybrids, yet they formed a pleasing variety, and I had determined to go on with their cultivation, but last winter completely altered my opinion. They, every one, succumbed to the severe frost, and although they had a good coating of snow for the greater portion of the winter, not a trace was left of them, and their supposed hardiness was a "mockery, delusion, and a snare." Some roots of the *gandavensis* section had also survived many previous winters, but they also fell a victim to last year's intense frost; in fact, as Mr. Kelway said to me, it is all stuff about hardy Gladioli, none of them will stand being frozen. When you get 2 or 3 inches deep of frozen soil they will not mind it, but when frost goes down 5 or 6 inches, then you must give them up. Such is my experience, and I can

only, in conclusion, advise all those who wish to grow these varieties that they must treat them in every respect as they do the hybrids of *gandavensis*.—D., Deal.

### DEATH OF MR. W. ALFRED DICKSON, OF CHESTER.

WE regretfully have to record the death of Mr. William Alfred Dickson, which took place at his residence at Newton Villa, shortly after seven o'clock on Thursday, December 17th. Mr. Alfred Dickson was fifty-four years of age at the time of his death. He was brother of Mr. Geo. A. Dickson, J.P., Mr. James Dickson, and Mr. Johnson Dickson, solicitor, whose father, Mr. James Husband Dickson, was a prominent citizen in a previous generation, and one of the foremost men in the horticultural world of his day. The name of Dickson has been so long and so honourably associated with the city, and the business with which the title is identified is of such historic interest, that we feel called upon to make something more than a passing reference to Mr. Alfred Dickson's death, for he bore his full share of responsibility in the direction of the business, having had the entire management of the nurseries during the whole period of his active business life. In the prime of early manhood few men showed more activity and indomitable energy. He never neglected the claims of his business; up to within a few months of his death he met his partners to go through the day's letters soon after six in the mornings, winter and summer. In the earlier years he travelled extensively, yet found time to pursue his favourite sport across country. Mr. Alfred Dickson was also well known in connection with the rifle volunteers. He was one of the oldest members of the corps, having joined in 1859 at the commencement of the movement. He passed through the various grades, and at the time of his death held the rank of Hon. Lieutenant-Colonel. He went into camp regularly each year, and in the earlier years he was regarded as an excellent marksman, having won the gold challenge medal for the year at a time when this was the chief prize of the yearly competition. The nature of his complaint—a phase of paralysis—was such that of late years his moving about became uncertain and difficult, and later he was compelled to assist locomotion by artificial methods, so that he did not take a prominent place beyond the range of his business, but in this he was actively engrossed to within a few weeks of his death.

As a nurseryman, very few men had such knowledge of trees and plants in relation to their history, their treatment, cultivation, and commercial values. The acquirement of knowledge was aided by a memory of marvellous retentiveness, and a mental grasp in every way remarkable. He had that quick discernment which enabled him to pick up a point which gave a characteristic distinctiveness and a determining feature to a particular plant, and which once seen seemed never to be forgotten. The tender regard he had for plants and flowers was manifested often to those who might be brought into contact with him at his offices in the nursery grounds. At such times when his attention would be given to some new variety which was shortly to add to the riches of horticulture, and with the introduction of which he was closely identified, one would find on his table, in front of him and about him, now a Daffodil, now a Rose, now a Carnation, or something of bright beauty, depending upon the season of the year when the call might happen to be made. This was placed so that it seemed to be more of a companion than a specimen to be critically examined for comment, for nomenclature, or for description.

As an employer he was firm without that sternness which seems inevitable to some men when brought into contact with the problems and trials involved in the employment of labour and in dealing with large masses of men. He was a strict observer of method and punctual discharge of duty. When he passed the word he expected the accomplishment of duty, and he was not slow to discern how far those about him could be trusted to carry out his instructions. We venture to say there is but one opinion amongst the hundreds of employés who to-day mourn his loss, and that is that a strong man with the mind of a man and the tender heart of a true gentleman has passed away from them.

For Mrs. Dickson and her young family of six children deepest sympathy is everywhere felt, and amongst the records of the deaths of this mournful year, of shadows and sadness now drawing to its close, few will touch the hearts of so many friends and acquaintances as that of Mr. Alfred Dickson.

The funeral took place on Monday.—(Condensed from the "*Chester Chronicle*," December 19th.)

### BENHAM PARK.

THIS well appointed residence, now occupied by Mrs. Myers, is most pleasantly situated on a gentle slope about three miles from Newbury, from the top of which a capital view can be obtained of Highclere Castle and the surrounding hills—one, especially, the "Beacon" being at a considerable altitude, standing no less than 900 feet above sea level. The house is a handsome squarely built structure, complete in every respect, the trim well-kept lawns and drives in front making a contrast to the light stone of which the house is built. The flower garden at the rear is unique, the numerous flower beds of large size being laid out on a steep slope in grass, and look remarkably well. The beds, at the time of my visit, were filled with the usual summer occupants, such as *Pelargoniums*; *Coleuses* especially being of capital colour. Sloping away from the beds are large



breadths of common Laurels, kept closely cut, forming an even surface of green, which served as a foil to the brightly coloured Pelargoniums in the beds. A long winding border, the centre of which is filled with choice evergreens, is ornamented in the front on both sides with useful summer and autumn flowering plants, such as *Anemone japonica* alba, Phlox, Pœonies, and so forth, in all making a bright display, and at the same time providing the means of filling the flower vases in the house. A capital effect was produced with *Clematis Jackmanni* growing over some tall and wide arches on which Roses were trained, the dark purple of the *Clematis* was fine in the extreme. A good sized conservatory adjoins the west end of the house in which is a fine plant of *Passiflora violacea* flowering in profusion. *Salvia Betheli* made a fine display; some good plants were in full flower, healthy Palms in the centre, and the usual flowering plants around the side stages were to be seen.

The kitchen garden and glass houses are situated some distance from the house, and, like the latter, are well appointed. There are numerous vineries, and serviceable crops of fruit had been cut or were hanging of well tried varieties. One range, span-roof, running east and west, contained the best examples I have seen of combined Grape and Peach culture. The latter were in perfect health, reaching quite to the ridge of the house, covering the whole northern side, and had borne splendid crops of fruit. The Vines were late kinds, a circumstance in favour of the Peaches. Substantial crops of fruit of the latter had been gathered from the trees in the regular Peach house, one Royal George giving sixteen dozen handsome fruits. Figs are well grown, a lean-to house being specially devoted to them, Brown Turkey and White Marseilles being the favourites. Pine Apples were represented by splendid fruits of Queens, weighing fully 5 lbs. each.

Benham Park has been long noted for Melons. This year large crops have been gathered. At the time of my visit some splendid examples of Countess were hanging. The flavour of this variety is excellent; it is also a good grower, and sets abundance of handsome fruit. Strawberries in pots were a feature. Next spring should be no exception to the rule. The plants now being grown look as promising as the most exacting could wish. The houses devoted to plants were filled with those best suited to house decoration, which is the main object in their growth.

The kitchen garden is spacious, having a gentle slope to the south, and is surrounded by a wall fully 14 feet high, a good part of it fitted with Parham's wall coping, which is found serviceable in procuring a full supply of fruit annually, especially of Apricots and Peaches. Sweet Cherries are not a success. Growing as they are against the eastern wall the trees look anything but happy, and they are gradually being supplanted by cordon Pears, which succeed satisfactorily, and so do the horizontal trained trees on west and north walls; the branches were exceptionally thickly hung with some sorts, Pitmaston Duchess especially so. Hacon's Incomparable had extra fine fruits. Full crops of Morello Cherries were borne by trees trained against a north wall. Plums were a heavy crop, particularly Coe's Golden Drop. The hardy fruit trees on the walls, with the exception of the Cherries referred to, are a credit to the planter and trainer. A fair sprinkling of Apples was to be seen, magnificent fruit of Tyler's Kernel were noted on a small bush tree. The highly coloured and popular Bismarck was fruiting freely, and so was Potts' Seedling as a half standard, an old tree, which had a full crop of fruit. The vegetable crops were all that could be desired, quarters well kept, and absolutely free from weeds. The whole garden reflects credit on its custodian, Mr. Howard.—A RAMBLER.



DENDROBIUM LEEANUM.

WITH the beautiful variety of *Dendrobium Phalænopsis*, named in honour of Baron Schröder, and which has attracted so much attention recently, Messrs. Sander & Co. of St. Albans succeeded in importing a plant from New Guinea of a distinct species of *Dendrobium*. This has been named *D. LEEANUM*, in honour of W. R. Lee, Esq., 33, Fountain Street, Manchester, who makes a speciality of *Dendrobiums*, and when a plant was shown at the Royal Horticultural Society's meeting on November 10th last a first-class certificate was awarded for it by the Orchid Committee.

*Dendrobium LEEANUM* produces pseudo-bulbs about 3 feet long, rather stout, somewhat compressed, and bearing gracefully drooping racemes near the apex. The flowers (fig. 97) are very pleasing in form and colour, the sepals and petals tapering white, white at the base, tipped and tinted with rich rosy crimson, somewhat deeper in the petals, which are also slightly narrower than the sepals. The lip is broadly margined with a similar colour, green at the base, and with three prominent ridges in the centre.

One excellent character possessed by the *Dendrobium* is the

length of time the flowers last, for the only plant received at St. Albans has been in flower for over six weeks, and the three racemes are still fresh. It will no doubt prove a useful and popular Orchid.

#### ORCHIDS AT PENLLERGARE.

ON a recent visit to the famous gardens of Sir John T. D. Llewelyn, Bart., at Penllergare, Swansea, the following were the most noticeable among the Orchids in bloom:—*Cypripedium Spicerianum*, several very good forms; *C. LEEANUM* and *C. L. superbum*, *C. callosum*, *C. Haynaldianum*, *C. Harrisianum*, *nigra*,



FIG. 97.—DENDROBIUM LEEANUM.

*C. insigne*, *C. insigne Chantini*, and *C. insigne punctatum*, *C. Arthurianum*, *C. Sedeni*, *candibulum*, and others. Of *Dendrobium superbiens* there were several fine plants. Why is this not more frequently grown? *Vanda cœrulea*, *V. Amesiana* were represented by healthy plants, only imported last spring. *Phalænopsis* in variety, showing plenty of robust spikes, and the plants in rude health—the exception now rather than the rule. A houseful of *Calanthes*, too, were very fine. They are especially well grown there, and amply do they repay the liberal treatment they receive.

In one of the stoves we found a very fine plant of *Nepenthes Rafflesiana*, evidently at home, and carrying a large number of its fine pitchers. *Odontoglossums* and *Dendrobiums* are promising a fine display later on; and in addition there are no end of stove and greenhouse plants to do duty in their several seasons in the production of floral treasures for those favoured to enjoy them. *Lapagerias rosea*, *superba*, and *alba* are at home on the roof of one greenhouse; and *Rhododendrons* of all classes, which are special favourites, need an article to themselves. Everything in his charge reflects great credit upon Mr. Warmington, Sir John's gardener, who spares no pains in bringing about such fine results.

#### CALANTHES AT THE HENDRE.

The *Calanthes* at The Hendre at present are particularly fine, *C. Veitchi* is handsome, *C. vestita* is also good, and the hybrid forms equally so. Mr. Coomber has been successful in raising some hybrids himself, which, whether distinct from others already in commerce or not, are at least really good and valuable additions to the collection. Mr. Coomber is equally successful in their culture as in the possession of good forms, the spikes large, and carrying a profusion of well developed blooms. Further, they are shown off to the best advantage in various positions. In a conservatory adjoining the mansion we find them arranged among Ferns and foliage in the recesses of a Fern rockery in a most graceful manner, and a house in the gardens is made exceedingly bright by an arrangement in which Ferns do duty as a ground, and the



various coloured *Calanthes* growing, as it were, out of the Ferns. Pots and bulbs are hidden, and the effect thereby, of course, is much improved.

A houseful of *Eucharis* we noticed was a sight to remember, and some fine *Pancratium fragrans*, one large plant having carried during one season no less than forty-three spikes. Among Orchids *Cypripediums* are doing well, and *Phalaenopsis* are a treat to behold. Mr. Coomber had not sent all his good things in the way of fruit to London, although the three Pines for which the R.H.S. awarded him a silver medal had been dispatched. Some very fine fruits remained at home, and trees and plants all promised well for equally good results to follow. J. A. Rolls, Esq., and Mr. Coomber have a similar enthusiasm in horticultural matters, and consequently the best possible results are obtained.—VISITOR.

### AN INTERESTING CASE.

IN the High Court of Justice (Chancery Division) an interesting case was tried before Mr. Justice Kekewich. It was an action brought by Sir Henry Bruce Meux, Bart., against Mr. Cobley, and the trial, which occupied the greater part of two days last week, raised a question of some interest upon the Agricultural Holdings Act, 1883. The object of the action was, in substance, to prevent the defendant, who was lessee of a farm under the plaintiff, from converting it into a market garden by erecting thereon glass houses for the cultivation of Tomatoes, Grapes, Mushrooms, and other market produce of that character. The facts were shortly these. By a lease, dated the 21st of January, 1889, the plaintiff, Sir H. B. Meux, demised to the defendant the Bulls-cross Farm, in Cheshunt and Enfield, in the counties of Hertford and Middlesex, adjoining plaintiff's mansion, Theobald's Park, and consisting of arable and pasture land, together with the messuages and farm buildings thereon, comprising about 152 acres, at a rent of £225, rights of sporting being expressly reserved to the lessor, and the lease contained a covenant by the defendant that he would in all respects cultivate and manage the farm and every part thereof "in a good, proper, and husbandlike manner according to the best rules of husbandry practised in the neighbourhood," and would at all times use his and their utmost endeavour to preserve the game on the demised premises and the nests and eggs of all partridges and pheasants. The plaintiff's complaint was that, without his consent, the defendant, in 1889, erected on the "arable" land of the farm two glass houses for the cultivation of Tomatoes and other hothouse produce for the London market, and that in 1890 he erected a third glass house, in spite of the remonstrances of the plaintiff's bailiff; also that he was intending to erect additional houses. The plaintiff contended that the erection of glass houses for the purposes aforesaid constituted such a change in the mode of cultivation stipulated for by the lease as to amount to a breach of covenant, and that the conversion of the farm into a market garden was "waste" on the defendant's part, and would cause loss to, and impose additional burden on, the plaintiff. The plaintiff accordingly claimed an injunction to restrain the defendant from committing the acts complained of. The defendant contended that he had the right to erect glass houses on the land, and that the same constituted an improvement to the farm and the inheritance thereof. He also pleaded acquiescence or consent on the part of the plaintiff. He also contended that the erection of the houses was authorised by the Agricultural Holdings Act, 1883, and that they were buildings which, having regard to the provisions of that Act, might be removed by the tenant at the expiration of his tenancy, or might be bought by the landlord.

MR. JUSTICE KEKEWICH said, "Much encumbered with rubbish" was the phrase he applied to this case twenty-four hours ago, and he deliberately applied the same phrase to it again. A great deal of the time occupied, and of the heavy costs incurred, was attributable to what His Lordship ventured to call the "rubbish" which had been imported into the case. If the case had been presented to the Court on its merits the whole of it might have been disposed of in two or three hours. One point urged by the plaintiff was that the buildings were an eyesore. His Lordship had never heard of a case in which a tenant could be prevented from erecting a building on his land, on the ground that it might be an eyesore or not agreeable to his neighbour. Then it was said that what the defendant had done or threatened to do would cause injury to the inheritance. In the first place, there was no evidence that growing market produce would throw a burden upon the inheritance. That was no increase of the burden. The only questions His Lordship had to consider were—first, whether what the defendant was doing was within the terms of the lease; and secondly, whether, irrespective of the terms of the lease, it was "waste" according to the common law. His Lordship came to the lease, and upon that there was a point of real importance—namely, whether, under a lease of what was called "agricultural land," the tenant was entitled to put up glass houses for the cultivation of non-agricultural produce, such as Tomatoes, Grapes, and the like. It was to be observed that, although this was a lease of a farm—that is to say, an agricultural lease—there was no prohibitive covenant against the lessee's doing things of this kind, and also no provision for a rotation of crops; therefore the lessee was left at large to cultivate the land at his discretion, the only restriction on that discretion being that he was to cultivate "in a proper and husbandlike manner according to the best rules of husbandry practised in the neighbourhood;" and he was also bound at the end of the term to yield

up in good condition not only the existing buildings, but all fixtures and other things attached to or set up on any part of the demised premises; so that the lease contemplated certain additions in the way of fixtures. Also it was to be observed that anything of this kind done was to be done at the tenant's risk. He could not compel the landlord to take it or pay for it, so that, after spending perhaps hundreds of pounds on the property, the tenant might be compelled to go out of possession without having got anything but a poor return for his expenditure, and possibly without getting anything back. This was so if the Agricultural Holdings Act, 1883, applied, except as to buildings erected with the landlord's consent.

Now, what was the tenant here doing which was not "according to the best rules of husbandry practised in the neighbourhood?" One must bear in mind the change of circumstances in the neighbourhood, and the mode of cultivation of land now adopted there. One must look and see what was going on in the neighbourhood, and not exclude the consideration which came within one's own extra-judicial knowledge that the wants of the metropolis and the neighbourhood were constantly extending and necessitated the increase of market gardens. Then there was the consideration that in the neighbourhood of this farm there were other market gardens and also other farms conducted on the principles which the defendant had adopted to his own advantage—namely, combining the farm proper with the market garden proper. His Lordship could not see that this was not using the land according to the best rules of husbandry practised in the neighbourhood. Construing the case according to the usages of mankind and the words of the lease, he saw no reason why the defendant should not erect such glass houses as he thought fit. His Lordship was of opinion that the defendant was entitled to use the ground as a market garden, and, if so, he was entitled to cover it with glass houses and derive advantage from it in that way. If that was expressly sanctioned by the lease, that could not be "waste." The tenant could not commit waste as against his landlord if the landlord had by special contract given him leave to do so. Was what had been done "waste?" Perhaps, technically, it was; but supposing it was, it did not follow that the plaintiff could recover damages, and if he could it by no means followed that he could get an injunction. His Lordship then referred upon that point to "*Doherty v. Allman*" (3 App. Ca., 709) and "*Jones v. Chappell*" (20 Eq., 539), and proceeded:—Then was there any injury to the inheritance? The evidence showed that to be an absurdity; and that, so far from the erection of these houses being an injury to the inheritance, it would be an advantage to the farm, the ground being in the neighbourhood of London. The only other point was as to the application of the Agricultural Holdings Act, 1883. In the view His Lordship took of the case it was unnecessary to consider what the meaning of the Act was; but the Act appeared to go a long way towards getting rid of the old common law doctrine of waste, and to be quite consistent with the two authorities above referred to. His Lordship felt inclined to hold that these houses were "improvements" within the Act—that is to say, improvements for which the tenant could get compensation; but he did not think it necessary to go further than that. His Lordship could not find a single point on which the plaintiffs succeeded, and therefore there must be judgment for the defendant with costs.



THE QUEEN AND HORTICULTURE.—The gold medal of the Royal Botanical and Horticultural Society of Manchester was awarded to Her Majesty the Queen for her exhibition of fruit at the recent show in this city. Mr. Bruce Findlay, the Secretary of the Society, proceeded to Windsor Castle and presented the gold medal. In acknowledgment, Mr. Findlay has received the following letter:—"Windsor Castle, December 16th, 1891. Sir,—I am commanded by the Queen to convey to the members of the Royal Botanical and Horticultural Society of Manchester the expression of Her Majesty's thanks for the gold medal which the Society has awarded to her for the fruit exhibited by Her Majesty on the occasion of the last exhibition there, and to express Her Majesty's satisfaction that the Apples and Pears sent from the Royal gardens should have been so highly approved of by the Society.—Believe me, yours faithfully, J. C. Cowell. Bruce Findlay, Esq. Secretary of the Royal Botanical and Horticultural Society of Manchester."

— THE WEATHER IN THE METROPOLITAN DISTRICT during the past few days has been very winterly, and keen frosts, accompanied by dense fogs, have been the rule. Temperatures as low as 14°, Fahr., have been registered in many places, and on several days the trees and shrubs have been rendered extremely beautiful by the abundant hoar frost lining every twig.



— **VEITCH MEMORIAL PRIZES.**—At a meeting of the Trustees of the Veitch Memorial Fund, held on Friday last, the 18th inst., at the office of the *Journal of Horticulture*, Dr. Robert Hogg in the chair, it was decided to offer Veitch Memorial Medals and prizes for the year 1892 as follows. At the Temple Show of the Royal Horticultural Society on May 27th a medal and prize of £5 for the best six hard-wooded greenhouse plants in bloom. At the special Exhibition of Orchids at the Royal Botanic Gardens at Manchester, to be held in June, a medal and prize of £5 for the best hybrid Orchid in bloom, already in commerce, and a medal and prize of £5 for the best hybrid Orchid in bloom not in commerce. These medals and prizes can be competed for by amateurs and their gardeners only. It was also decided to award a silver medal to Mr. William Watson of Kew, and a similar medal to Mr. John Heal of the Royal Exotic Nursery, as a recognition of their skill as hybridisers and cultivators.

— **FLORAL DECORATIONS.**—A very successful bazaar was held on Wednesday and Thursday last in the Shakespeare Room at Warwick Castle. The stall presided over by the Countess of Warwick was effectively decorated with wreaths formed of the coloured leaves of *Berberis aquifolia*, and long trailing shoots of "Traveller's Joy" (*Clematis vitalba*), over the centre a Prince of Wales' feather was formed of the same materials, with the addition of a few plumes of Pampas Grass, the whole being backed up with light sprays of Yew produced a novel and pretty effect, which was much admired. The downy substance formed on the seed vessels of the *Clematis* named renders it especially suitable for decorations at the present season. The conservatory adjoining the Shakespeare Room was converted into a refreshment stall, and presided over by the Lady Eva Greville. A charming effect was produced by draping the walls with art muslin and tapestry, and defining the doors and windows with wreaths, while the iron girders which supported the glass roof were entwined with Ivy, long trailing shoots of which hung down at irregular intervals, and Japanese lanterns and coloured lamps were freely used, the effect thus produced being especially striking when seen under artificial light.

— **CHRISTMAS ROSES AT WARWICK.**—A call on Mr. J. Kitley a few days ago revealed the fact that Malmaison Carnations are by no means the only plants he grows exceedingly well. On entering one of the houses a broad expanse of snowy whiteness compelled more than a passing expression of admiration. This fine effect was produced by 300 clumps of *Helleborus niger major*, studded with flowers as closely as they could be packed. The blooms were large, and beautifully fresh and clean, and no gardener with floral decorations to carry out at Christmas ought to be without a supply of these charming flowers, seeing that they are so easily grown. The plants are grown on a north border, where they are allowed to remain two and sometimes three years. About three weeks or a month before they are wanted in flower the plants are lifted with good balls of earth, and placed closely together on the floor of a vinery or any other cool structure, a little soil is worked around the roots as the work proceeds, and when completed the whole mass is given a thorough watering through a coarse rose. This washes the soil among the roots, and leaves the flower buds quite clean. As the buds begin to open, a little heat is applied to lengthen out the flower stems, as they are much more appreciated for decorative work when the stems are of good length. After flowering, the plants are hardened off, divided, and again planted in the open air.

— **LYCIUM AFRUM.**—In reference to "R. H. D.'s" inquiry (page 497) anent the fruiting of this shrub in this country, I beg to say that occasionally it does so, but very sparingly hereabouts, and there are several shrubs of it growing in the cottage gardens facing the streets of this—now annexed—suburb of the city of Birmingham. It grows rapidly against walls and over arbours, &c., and invariably produces a profusion of reddish violet blossoms. The shrub in question must indeed be an interesting sight. Its one drawback is its deciduous character, and consequently presents a naked appearance in winter. Regarding its cognomen, "Tea Tree," it would be interesting to know if its leaves are really used as a beverage in Africa, inasmuch as there is a tradition that its first introduction into this country was by the captain of a vessel, who was commissioned to bring a consignment of Tea plants (*Thea*) from East India, and lost them on the voyage before arriving at the Cape of Good Hope; but to get out of the dilemma he obtained plants of a shrub, the leaves of which he noticed were used by the natives there as a tea, and thus passed them off for the true Tea plants. The respective kind of plants, however, are of distinctly different families, the *Lycium* belonging to that of the *Solanaceæ*, and the *Thea* to *Ternströmiaceæ*.—W. G., *Harborne*.

— **DEATH OF MR. FLETCHER ROGERS.**—By the somewhat sudden death of Mr. Fletcher Rogers on Saturday last Liverpool loses one of its most prominent citizens and the Liverpool Horticultural Association one of its best supporters. To the latter the late Mr. Rogers had been Honorary Treasurer for a number of years, and it was a painful coincidence that his death should have occurred on the day of the annual dinner of the members of the Association, many of whom had hoped to look for his genial presence in the chair, a position he had held at all the previous dinners. At those gatherings his remarks always made a great impression on all present, his delight for all that was good and true in gardening being strongly emphasised in the excellent speeches he made. His kindly presence was a sure sign of encouragement, and when the Liverpool Horticultural Association has been passing through some of its darkest times, the late Mr. Rogers was always there with his cheering words to help the Committee and members to greater stimulation, with the hope that brighter times would dawn.

— **PANCRATIUM FRAGRANS.**—I can fully endorse the remarks by Mr. W. R. Williams, December 10th (page 491), for I have at the present moment a *Pancratium fragrans* in full bloom, four long fully expanded flowers on one stem; its fragrance is almost overpowering. Being ever-green I keep it in my Fern house, which has a stove temperature. It is in a 7-inch pot, and has not been disturbed for four years, the whole time I have had it, and has always each year flowered well and been a noticeable feature amongst my Ferns and Orchids, and with your correspondent I can say it does deserve worthy consideration by those who can give it the desired temperature.—ELLIS PALMER, *Salisbury*.

— **JERUSALEM ARTICHOKE.**—I do not think it is known to all growers of this useful vegetable that there is a white variety. Seeing it advertised by Messrs. Sutton I procured some of the tubers. They were planted by the side of the old purple variety; but now we have commenced to dig them the white is found to be far superior, being more prolific, quite double the quantity to a root, and of a much better shape, some of the tubers being perfectly round with very few eyes. When cooked they are also of a better flavour. It is a new introduction which will be much sought after when better known, especially amongst growers for market, as it should fetch a higher price than the purple, as there is less waste to them and it is more taking in appearance, which is one of the principal items with anything grown for sale.—E. TROLLOPE.

— **LIVERPOOL HORTICULTURAL ASSOCIATION.**—At the second meeting of the session, held in the lecture room of the Museum, William Brown Street, an excellent paper on "Deciduous *Calanthes*" was read by Mr. Hathaway, gardener to the Earl of Latham, Latham House, Ormskirk. Owing to the very inclement state of the weather the attendance was not so large as it might have been, but those present were highly gratified by the concise and lucid remarks from Mr. Hathaway, the paper showing him as one who thoroughly understood the cultivation of these beautiful winter-flowering Orchids. At the close a hearty vote of thanks was passed to Mr. Hathaway, and the hope expressed that he would at no distant date favour the members with another paper.

— **THE FIFTH ANNUAL DINNER** of the above-named Association was held on Saturday last in the large dining-room of the Adelphi Hotel, when about 130 persons sat down to an excellent repast. The chair was occupied by Mr. Thomas White, Chairman of the Association, who was supported by Mr. T. Powell (Vice-Chairman), and Mr. R. W. Ker, Aigburth Nursery. A gloom was to some extent cast over the proceedings by the announcement of the death of Mr. Fletcher Rogers, Hon. Treasurer of the Association, which had taken place that morning—a gentleman who had presided at all previous dinners. The Chairman feelingly referred to the sad loss the Association had sustained, and Mr. R. W. Ker made sympathetic reference to the death of Mr. Rogers. After dinner the usual loyal toasts were proposed. The toast of the "Liverpool Horticultural Association" was proposed by Mr. R. W. Ker, who in a brief speech pointed out the good work being done, and expressing an opinion that greater work might be expected in the near future. He also went on to urge the necessity of not only the gardeners themselves doing all in their power to lift themselves up to the highest position, but to secure the assistance of their employers to help forward in all things calculated to raise the tone of their profession. Mr. White replied. "The Horticultural Trade" was responded to by Mr. Andrew Ker. Mr. Blomily proposed that of the Chairman, to which Mr. White suitably replied. An excellent vocal and instrumental programme was performed.



— **GLENNY'S GARDENERS' ALMANACK.**—The leading article of the issue of January, 1892, is devoted to bush fruit and its cultivation. Among other matter are lists of new flowers, fruit, and vegetables as supplied by different seedsmen, florists, and nurserymen.

— **FOR** continuity of flowering throughout the summer the Tea Rose, *MADAME DE WATTEVILLE*, is one of the best. Either in bud or fully expanded it is appreciated, the fleshy-like pink of its colouring is so pleasing. The flowers last along time in a cut state in water. We grow it on a low south wall, and have good reason to be satisfied with it.—S

— **COPPER IN PRESERVED VEGETABLES.**—A correspondent sends the following cutting:—At a recent meeting of the Bavarian Society of Applied Chemistry, the subject of the "Presence of Copper in Preserved Vegetables" was under discussion. The discussion was epitomised in the "Chemiker Zeitung." One of the speakers, Director Kochler of Berlin, made a remarkable statement. He said that during a visit to the Strasburg Exhibition his attention had been attracted to the remarkably beautiful green of some preserved Beans, and upon inquiry as to how this colour had been imparted, he was told that it was a trade secret. Subsequently he had learned that during the boiling of these vegetables in a copper vessel an electric current was passed through the whole, the copper of the vessel acting as an anode, and that in this way a large quantity of copper was carried into solution, giving the vegetable a fine tint.

— **YORK FLORISTS' ANNUAL DINNER.**—The annual dinner in connection with the Ancient Society of York Florists was held at the White Swan Hotel, Pavement, York, when an excellent *menu* was laid before a large company of members and friends by Mr. and Mrs. Hornsey. Alderman Sir Joseph Terry presided, Mr. J. Lazenby (Secretary) being in the vice-chair. Amongst those present were the City Sheriff (Mr. Councillor L. Foster), Mr. Alderman Rymer, Mr. Alderman Clayton, Councillors Wragge, Purnell, J. S. Gray, the Vice-Presidents and Committee of the Society, and numerous others. Mr. Councillor Wragge said he was pleased to see that his Lordship had promised to give, at their summer series of Shows, a sum of £5, to be divided, at the discretion of the Committee, amongst the artisan class, for exhibits of their own culture. Mr. Councillor J. S. Gray referred to the great age of the Society, and was glad to see that it was now in a healthy, sound position. He thought the autumn Chrysanthemum Show had been a great success. The Chairman remarked that the Society had made grants to several of the charitable institutions of the city. They had granted the Hospital and Dispensary £7 7s. each, and also £10 10s. to the Benevolent Institution for Gardeners. Mr. John Fielden (Treasurer) said their income from all sources had been £472 12s. 2d., an advance of £81 2s. 7d. on the previous year. They had expended £444 3s. 7d., which was £101 9s. 11d. more than last year. They had given £25 5s. 8d. to various charities, and had a balance in hand at the bank of £171 15s. 8d.

— **ROYAL METEOROLOGICAL SOCIETY.**—The usual monthly meeting of this Society was held on Wednesday evening, the 16th inst., at the Institution of Civil Engineers, Mr. Baldwin Latham, M.Inst.C.E., President, in the chair. Mr. R. H. Hooker, B.A., Mr. A. B. MacDowall, M.A., Mr. E. G. Ravenstein, F.R.G.S., and Mr. R. Hedger-Wallace were elected Fellows of the Society. Mr. W. Marriott gave the results of the investigation undertaken by the Society into the THUNDERSTORMS OF 1888 AND 1889, which he illustrated by a number of lantern slides. Mr. Marriott gave the number of days on which thunderstorms occurred at each station, the number of days of thunderstorms in each month for the whole country, the number of days on which it was reported that damage or accidents from lightning occurred, and also the number of days on which hail accompanied the thunderstorms. In 1888 there were 113 days, and in 1889 123 days on which thunderstorms occurred in some part of the country. The number of days with damage by lightning was thirty-three in 1888 and thirty-eight in 1889, and there were fifty-six days in each year on which hail accompanied the thunderstorms. The tables of hourly frequency show that thunderstorms are most frequent between noon and 4 P.M., and least frequent between 1 A.M. and 7 A.M. Thunderstorms appear to travel at an average rate of about eighteen miles per hour in ill-defined low barometric pressure systems, but at a higher rate in squally conditions. The author is of opinion that individual thunderstorms do not travel more than about twenty miles, and that they take the path of least resistance, and are consequently most frequent on flat and low ground. The author believes that the thunderstorm formations are small atmospheric whirls, in all respects

like ordinary cyclones, and that the whirl may vary from one mile to ten miles or more in diameter. There are frequently several whirls near together or following one another along the same track. The numerous oscillations in the barometric curve are evidently due to the passage of a succession of atmospheric whirls, and it appears that lightning strokes are most frequent when these oscillations are numerous.

— **MR. F. J. BRODIE** read a paper "ON THE PREVALENCE OF FOG IN LONDON during the twenty years 1871 to 1890." The popular notion that November is par excellence a month of fog is not confirmed by the figures given by the author. The number of fogs in that month is, if anything, slightly less than in October or January, and decidedly less than in December, the last-mentioned month being certainly the worst of the whole year. The latter part of the winter is not only less foggy than the earlier part, but is clearer than the autumn months. In February the average number of days with fog is only 6.6, as against 8.9 in January, 10.2 in December, 9.2 in October, and 8.8 in November.

— **COBHAM PARK.**—In Smith's "Gravescend Almanack" we find an interesting description of walks and rides round Gravesend by our able correspondent, Mr. J. R. S. Clifford. We cite the following on Cobham Park:—"Cobham Park gives us a fine display of noble and ancient trees. It has large Oaks, though none of great age, avenues of venerable Limes and Chestnuts, handsome Pines and Firs, with many kinds we cannot enumerate, and it is remarkable for the show it makes in early summer of that grand exotic flower the Rhododendron. To the naturalist it is interesting as the resort of birds and insects, being the home of some both curious and rare. So, too, Shorne Wood, and others around Cobham; but as they are also preserves of game the stroller needs to be careful, for he may be suddenly 'warned off.' The Darnley Mausoleum in the Park, perched upon an eminence, is a conspicuous object; erected a century ago, it has never been used for the purpose of interment. Cobham Hall takes high rank amongst the family mansions of our nobility. Its centre is one of the memorials of the famous Inigo Jones. The wings, of date somewhat later, please the eye by their mullioned windows, quaint gables, and Tudor doorways, the deep hue of the bricks testifying to the fact that they are of the kind which stand the weather for centuries, now, alas! no longer made. Within the pile are splendid apartments and saloons, many of them filled with antiques and art treasures. (Cards to view that portion of the Hall shown to the public may be had from Mr. J. S. Caddel, King Street, also at the village post office. Admission is on Fridays, and the charge 1s., the proceeds being given to a charitable object.) Cobham itself is a pleasing specimen of the old-fashioned English village. At its Leather Bottle Inn many a traveller has enjoyed his lunch while he called up memories of Dickens' characters in his 'Pickwick Papers,' which have made this spot of enduring fame."



CHRYSANTHEMUM ROBERT OWEN.

ON several occasions during the past few weeks attention has been called to the remarkable seedling Chrysanthemum bearing the above name. The variety was first shown at the Royal Horticultural Society's meeting on December 8th last, but owing to there being only one bloom no award could be made for it by the Floral Committee. The same difficulty occurred at the National Chrysanthemum Society's Show on the next day, but there it obtained a special prize. Early in the season Mrs. Myers had offered two prizes of a guinea each for the best new Japanese and incurved Chrysanthemum of the year; but these not having been awarded, it was resolved at the meeting on December 9th to divide the amount into four prizes of half a guinea each. As only three novelties were found worthy of the prizes, two were adjudged to Mr. Owen for his namesake, and another for the incurved Henry Perkins.

Chrysanthemum Robert Owen is a seedling raised at Mr. Owen's nurseries, Maidenhead, and described as resulting from a cross between Sarah Owen and an American seedling. It is an incurved Japanese, the bloom shown being  $7\frac{1}{2}$  inches in diameter and  $4\frac{1}{2}$  inches deep; the florets broad, tapering to an acute point, and strongly incurved, forming a deep massive bloom of a rich bronzy yellow tint. The development of this variety will be watched with much interest another season, for it is one of the most distinct yet secured. The illustration (fig 98) was prepared from the bloom when shown at the R.H.S. meeting.



## CHRYSANTHEMUM VIVIAND MOREL.

FOR the last six years I have been growing Chrysanthemum Vivand Morel, which was described in the National Chrysanthemum Catalogue for 1888 as white lightened flesh colour, medium or large cup-shaped.

show flower. On receiving the *Journal of Horticulture* for 17th December, I find therein (fig. 95) Vivand Morel a totally different flower. Can nothing be done to prevent this confusion? Is it yet time to change the name of this new variety? We have two Duchess of



FIG. 98.—CHRYSANTHEMUM ROBERT OWEN.

This is a useful as well as beautiful flower of sturdy, vigorous dwarf habit. Seeing Vivand Morel very much praised, I naturally thought my old favourite was coming to the front in an extraordinary manner, for though a valuable variety it does not deserve premier place as a

Albany, surely it is not too late to prevent our being saddled with two Vivand Morels. When ordering a plant of the new variety what guarantee shall I have that I am not growing my old friend till the new plant comes into bloom? and, meanwhile, how am I to distinguish the



one from the other? for I do not intend to throw the old variety away. The old one like the new is extremely liberal in the production of suckers for propagation, a quality by no means to be despised. I would suggest that M. La Croix, the raiser, be communicated with forthwith, and that he be asked to rechristen his variety, say as Exeelsior.—J. EREAUT, *The Beeches, Jersey*.

P.S.—*Apropos* of names, the Strawberry Waterloo is neither more nor less than La Palmée, a variety I procured from Leroy, of Angers, in 1863.

#### CHRYSANTHEMUM MRS. ROBINSON KING.

THIS is a deep golden sport from Golden Empress, which originated at Mr. Robinson King's, North Ferriby, Hull (gardener, Mr. Hotham). It is, without doubt, one of the finest additions to the incurved class ever introduced. It possesses all the excellent qualities of its parent in florets, form, and size of flower, and is as deep in colour as Jardin des Plantes. I exhibited it at several shows this year, and it was the admiration of everyone who saw it. I have seen several spurious forms of Mrs. Robinson King, but much lighter in colour than the true variety. The entire stock has been acquired by Mr. Owen of Maidenhead, and will be distributed by him in the spring. Such a grand acquisition as this is sure to be eagerly sought after, and will find its way into many a prize stand next year.—PETER BLAIR, *Trentham Gardens*.

#### CHRYSANTHEMUMS AT SINGLETON PARK.

IT hardly needs an apology to write of Chrysanthemums at this season of the year, much less is it necessary to apologise for a note on those at Singleton, Sir H. Vivian's well known establishment at Swansea. The "fever" may well be said to have spread, as in the district generally, as evidenced by the very fine show provided recently. Many of the earlier sorts were over at the time of our visit, but sufficient were left to convince us that Mr. Ireland, the gardener, is in the front rank as a grower; indeed, some of his blooms were much the finest we have seen this year, notably the following—viz., Volunteer, Miss A. Hartshorn, and Mrs. Alpheus Hardy, all grown in 7-inch pots. The latter variety carried four fine blooms. Had not been treated in common with other varieties, but kept inside throughout the season, and not fed with stimulants. Mr. Ireland uses oyster shells freely for drainage, and finds the roots penetrate the scales of the shell, and doubtless derive nourishment therefrom, thus the shells answer a double purpose. Ground bones seem the favourite food, and Mr. Ireland feeds the plants in all stages; that is, as soon as the pots are filled with roots, whether in a small state awaiting potting, or in a more advanced state, a potful of roots is a signal for artificial feeding.

Personal attention, too, is the secret of much of the success here. Mr. Ireland doing himself what he wants done well. This is no reflection upon his young men either, who are ever anxious to assist; but ideas grow and cannot be transferred in a fully matured form from one mind to another in an instant, and the young men have a better chance of grasping the idea by witnessing the practical demonstration and watching the results.

About 300 plants are grown specially for large blooms, and an equal number for bush and cutting purposes. Pompons, too, are well cared for. We would like to note down other things, too, in passing through fruit and plant houses, but will reserve for another occasion with a mere mention of some very fine plants of *Adiantum farleyense* that are luxuriating in what many would think an enviable condition.—JOHN JONES.

#### NEW CHRYSANTHEMUMS.

(Continued from page 514.)

##### ANEMONES.

THE large or show Anemone class is by some very much appreciated since so many new varieties have been secured, the colour in consequence being considerably brightened, which was a drawback to the popularity of this section. The present season has been productive so far in bringing out several new varieties, the following being the more noticeable.

*Delaware*.—Centre or disc full, of a sulphur colour, the guard florets pure white.

*Enterprise*.—Sulphur coloured centre, with a complete row of tubular florets, rich pink in colour, form the guard florets.

*Miss Margaret*.—This must not be confounded with the old white variety of that name. The guard florets in this case being of a silvery pink shade, the disc, which is both full and high, sulphur or soft yellow.

*Gladys Spaulding*.—Brassy yellow, full centre.

*Duchess of Westminster*, so far, is the only new variety worthy of comment in the Anemone Japanese section, which is one of Mr. Owen's seedlings, in the way of Duchess of Edinburgh, but considerably better; in fact it ranks as one of the best in the whole section, having all the needful characteristics. The centre is exceptionally full of well formed florets, rosy bronze in colour; the long drooping guard florets silvery bluish.

*M. Charles Leboeuz* maintains the high opinion formed of it when it first appeared, and is now one of the most popular in that section. The colour is unique, a bronze ground with an old gold suffusion, deepening towards the tips of the florets. The centre or disc is full and neatly rounded, the guard or ray florets of that length which enhances the beauty of the flower as a whole.

##### REFLEXED.

Any worthy addition to the reflexed section is always welcome. So few are obtained to this class that any advance upon older varieties is

sure to receive a fitting tribute. So far as I am aware there are but two which are worthy of note. R. Smith, a sport from Dr. Sharpe, the colour being reddish, the florets flat, more so than in the parent, which at times are tubular, owing particularly to the selection of early buds for the development of the blooms; anyhow the addition is well worth a place in the too limited number of varieties.

*J. H. Bradbury* is in colour a warm brick red tipped and edged with gold, a full bold flower when well grown. I do not know its origin, but saw it for the first time at the Ascot Show, where reflexed varieties are perhaps better staged than anywhere else.

##### POMPONS.

Pompons are great favourites with many persons, but this section is seldom increased by really first-rate sorts.

*William Westlake* is a really splendid addition. The flowers are just of that size—neither too large nor the reverse—to fit it for either exhibition or home decoration. Some sorts when cultivated to bring out their fullest development are much too large and coarse to take a proper place in a stand of true Pompons. The colour is a rich golden yellow, with a faint suffusion of a reddish tint as it expands. The flowers are neatly formed and most freely produced; the habit of the plant is vigorous, running up to 6 feet when allowed freedom.

*Golden Marabout* is a sport from the well-known variety of the latter name, which is regarded as one of the best; white with a faint suffusion of blush, the florets serrated. The new form is exactly like the parent, except in point of colour, which is a pure gold tint.

*W. Saby*.—Chrome yellow, shaded orange; capital form, either when disbudded freely or allowed to develop in clusters.

Of all the newer introductions in the small-flowered sections, none is more valuable than the new Anemone Pompon Emily Rowbottom, which is a sport from Marie Stuart; pure white both disc and ray florets, and of capital form, quite one of the best, and for cutting a gem. The plant produces spikes of bloom fully 15 inches in length, and are charming for filling vases either alone with any suitable greenery, or in conjunction with spikes of its parent equally well flowered.

##### SINGLE VARIETIES.

In the south of England especially this charming race of Chrysanthemums receive much encouragement; their great beauty and usefulness is recognised and appreciated for either conservatory decoration, cut blooms in quantity, or cultivated to their full size, and staged at exhibitions in threes. At one or two of the northern shows they are to be seen in fairly good condition, but not nearly so well as their merits deserve. I am most partial to this section grown in any form, and am always looking out for any worthy addition, and am pleased to say there are several this season which, for the benefit of Journal readers, I will describe. By far the most successful cultivator of these varieties is Mr. Agate, Havant, who stages them in perfection at the southern shows, where they are always admired.

*Oceana* I regard as the best variety in existence. The blooms are of good size, and the florets are semi-drooping at the points; the colour is the palest pink—in fact, this variety has all the characteristics of a perfect single Chrysanthemum.

*Mrs. D. B. Crane* is quite alone in the matter of colour, a cerise pink. I know no variety with quite the same shade of colouring, the only fault is the upward tendency of the points of the florets instead of their drooping gracefully.

*Golden Star* is very striking. The colour has a great charm, a deep yellow without verging to orange; the flower is large, the florets making a perfect circle, rounded at the tips instead of being rather pointed as is generally the case. Those persons who appreciate single Chrysanthemums ought to add this one to their list.

*Miss A. H. Bates* is pure white, variety of much promise, with broad flat florets.

*Jenny Lind* has yellow flowers tinted with orange.

*Jessie Chignell*, very dark red, finely pointed petals, very distinct, and good.

*Ecquisite*, delicate blush, charming variety.

*Miss M. Wild*, medium size florets, circular in form as a whole; outer half of petals deep rose, lighter towards the centre, quite distinct and good. Charming has soft yellow coloured flowers which are not common in single Chrysanthemums. I know of no variety which is more free flowering when grown as a natural bush, allowing all the shoots which grow from the first natural break to develop all their buds. A most desirable kind.

*Florence*, blush white. The points of the petals recurve most gracefully; a pleasing variety, which should be in every collection.

*Yellow Jane*, the exact counterpart of White Jane, except in colour, which is a rich gold.

*Guernsey Sunset*, rich deep yellow, shaded with a tinge of carmine; large, very showy, and desirable in every respect.

*Nymphaea*, pure white, with a pleasing perfume.

*Milly Agate*, blush.

*Coquette*, rosy pink.—E. MOLYNEUX.

#### JOINTS IN HOT-WATER PIPES.

THERE appears to be some lack of knowledge regarding this matter. An ordinary labourer many years ago relaid the hot-water piping here, at the same time adding to and re-arranging it where necessary. The packing material used was sal ammoniac and iron filings. I showed him



how to proceed, and not one joint has given way or burst. Of late years we have not employed this material, but no doubt where permanent work is wanted, and more especially in cases where pipes are covered in, there is perhaps no better material going yet. "The loss of time in picking out joints" is commented on as being an unfavourable point against iron and sal ammoniac. Well, it is. I have a lively remembrance of a fitter spending many hours trying to dig out such a joint, and at last having to give up, at the same time that the patience of the proprietor was exhausted.

I do not know anything of pipes giving way during severe frost, but I have several times had to alter piping, and have had to add more to what was already down. The method of procedure was very simple. If we wanted to attach more piping to a house, the pipes were cut clean through far enough from the joints to allow the elbows or syphons to be used again. This of course requires to be done at each end of the house where the heating system enters and leaves, and at the further end where the flow returns. The necessary pieces are then fixed, short lengths of piping to make good that removed having been jointed before attaching to the main pipes. In a case of adding the heating system to a new house, the arterial pipes are cut so as to allow the two necessary tee-pieces to get in, a "thimble" piece jointing one end of each, and an ordinary spigot joint the other. A drawback, common alike to cement, vulcanite, and iron joints, has not been noticed by any of your correspondents. In all large systems of hot-water piping there is much expansion and contraction of the iron continually going on. Joints composed of the two former materials are the more easily ruptured, but in the case of the latter there is also risk. I have known several cases where no means of allowing the pipes to expand and contract had been provided, and where in consequence mischief followed.

I will now mention a joint which I employed for the first time this autumn, and which I imagine is well worth adopting. During summer I had an opportunity of visiting some of the large market-growing establishments near London, and, by the way, I may say they were worth visiting. In one of them men were busy, some bricklaying, others painting, others again at hot-water engineering. The latter attracted my attention at once, for they were making joints with a rapidity and ease quite novel to me. I turned to my guide for information, and I had everything explained verbally and by demonstration in less than five minutes. If I may again intrude another sentence here, it is to say how kindly the several growers I met explained anything that was asked, and how pleasantly they imparted information on cultural points. To return to our joints. I found they were simply indiarubber rings or washers, one of which formed a joint. The ring was first placed on the spigot end of one pipe, then the socket of another was pushed over it, when, with a jerk, the two seemed to go close together. I found the joint was efficient and durable; as I saw, easy to fix, the price very moderate, and the vendors the Thames Bank Iron Company. I had some work on hand a month or two previously which would have saved much trouble if these rings had then been known. Another was about to be started, and I quickly made acquaintance with the rubber ring, as one of the men said the joints were made like "winking." Of course there are other expansion joints, but they are expensive as compared with these, which I think are as cheap as anything that can be used for making joints.—B.

## THE ROYAL HORTICULTURAL SOCIETY'S JOURNAL.

THE most recent issue of this Journal (part 3, vol. xiii.) contains much interesting matter, including the papers and discussions at two of the Chiswick Conferences, together with the papers read at the ordinary meetings of the Society from June 9th to September 22nd. The reports of the Committee meetings also extend over the same period.

The subjects comprised in the part are as follows:—"Alpine Plants," by the Rev. C. Wolley Dod, M.A.; "Tea-scented Roses," by Mr. T. W. Girdlestone, M.A., F.L.S.; "Conference on Hardy Summer-flowering Perennials—'Wild Gardening in Meadow Grass,' by Mr. W. Robinson, F.L.S.; 'Some of the Summer Flowers of my Garden,' by the Rev. H. Ewbank, M.A.; 'The Picturesque Use of Hardy Summer Perennial Plants,' by Miss Jekyll—"List of Hardy Perennial Plants Suitable for Various Purposes;" "Conference on Small Hardy Fruits—'Strawberries for Private Gardens,' by Mr. W. Allan; 'Strawberries for Forcing,' by Mr. G. Norman; 'The Gooseberry,' by Mr. D. Thomson; 'Raspberries,' by Mr. G. Wythes;—"List of Small Fruits for Private Gardens;" "Early Peaches and Nectarines," by Mr. T. Francis Rivers; "Ornamental Stove and Greenhouse Plants," by Mr. James Hudson; "The Gladiolus," by the Rev. H. H. D'Ombraim, B.A.; "Hard Water and Bog Plants," by Mr. Geo. Paul; "Insectivorous Plants," by Mr. R. Lindsay; "Insect-catching Plants," by Mr. Lewis Castle.

From these we select for reproduction the following useful chapter by Mr. Geo. Paul.

### HARDY WATER AND BOG PLANTS.

MY paper was to have been on the subject of hardy bog plants, in the culture of which I have had some experience. The Secretary has, I find, coupled them with water plants, of which I know but little. My remarks, therefore, on these last must be confined to giving my limited experience with them, an enumeration of the difficulties I have had in planting them in somewhat difficult places and under exceptional circumstances, and to giving a description of a very pretty and successful, if a comparatively small, water garden which my friend Mr. M. F. Campbell has made at Hoddesdon. I will append a list of plants which

I have found to be useful. In the first place, I was led to pay special attention to hardy bog plants from possessing a small patch of natural bog, which, as a haunt of rushes and sphagnum, was an eyesore in an otherwise well cultivated garden. Such a patch is to be found in most large gardens and pleasure grounds situate on the hillsides of our valleys—a springy patch developing into a tiny marsh, and beautiful with masses of such flowers as the Yellow-rattle and the Cuckoo-pint, or covered with big Docks, Rushes, or Giant Hemlock.

Then turning to many of the moisture-loving perennials, such as the Spiræas, I was struck with their great beauty of development when by chance they found a moist and favourable spot, whereas when planted as usual in the mixed herbaceous borders one never saw their full beauty; with the setting in of dry weather they failed to finish their growth or to produce their flowers satisfactorily, and if subjected to two dry autumns consecutively many of them died out altogether. Here there were two things—a site wanting furnishing and plants seeking such a site, for there are few more lovely plants in their full beauty than the Spiræas, to name only one family of plants. From the common Meadow-sweet of our valley marshes all over England, through the beautiful Japanese forms, such as *S. palmata* and its white variety, up to the gigantic *kamtschatica* exhibited two years ago in this hall, with spikes 6 to 8 feet high of light feathery flowers, all are plants of great beauty when fully developed, and to attain this development a moist, boggy spot is essential.

There are several families of plants, which I will enumerate later on, which lend themselves to a like cultivation. I have made two bog gardens, both devoted to the growth of bog and mud plants. The first was a natural sphagnum and *Drosera*-producing bog on the Bagshot sand formation, which with some little difficulty was brought into cultivation, so that I may perhaps briefly describe the process.

It was a spongy piece of land about 12 yards square, about half-way down the slope of a hill, at the foot of a bed of gravel. It was treacherous walking to reach the little bed of Sundew, and the one difficulty in forming the garden was to make suitable paths. This slight difficulty was overcome by firmly driving in posts, and resting some long split trees on them; the split branches of the same trees were then nailed crosswise, thus forming what the Americans call a "corduroy" path. The top black soil was cleared away until we reached the clay or watery sand (in which we found an old Oak trunk fast passing into bog oak). The whole was then arranged in terrace beds by means of clay banks, on the top of which ran the corduroy paths. The water after use in the top beds was led in pipes through these clay banks to the next lower beds, and so onwards, varying the quantity of water according to the amount of moisture required in each bed.

A small pond, in which the Cape Pondweed flourishes, was made, and from it the water not required for the lower beds flowed into a narrow watercourse, along the sides of which, with their roots in the water, *Kämpfer's Iris* blossoms well. The highest bed is the wettest owing to the spongy water-spring, and just at this point the variegated *Iris pseudacorus* luxuriated. Other mud plants used were some varieties of *Caltha* or *Marsh Marigold*, which for nearly a month are sheets of yellow blossom; the variety in this family is more noticeable from the time of blooming than from the shape and variation of the flowers. On the sloping bank, above this bed, are naturalised masses of the beautiful *Fern Hypolepis millefolium*, while *Lily of the Valley*, which had originally grown on the bank, is preserved *in situ*; the *Blood-root*, the *Musk and Creeping Jenny*, both famous London window-plants, the native *Club-moss* (*Lycopodium clavatum*), two or three British kinds from Westmoreland, and the *Alpine Blackberry* (*Rubus arcticus*), which fruits, it is said, beneath the snow of the Arctic regions, were added.

Some curious instances of the travelling powers of plants have also occurred. From the drier part of this bed the *Iris* moved down into the water of the pond, whilst the *Trollius*, or *Globe Flower*, and the *American Fern*, *Onoclea sensibilis*, have gradually moved up on to the drier bank above.

The two next beds on a lower level were planted with the *North American Pitcher or Side-saddle Plants*, *Sarracenia purpurea*, *S. Drummondii*, and *S. flava*. The purple variety soon made itself at home, flowering and seeding and producing offsets abundantly. *Drummond's* variety exists, while *flava*, a native of the more Southern States, succumbed to the first hard winter. On this level the beautiful *Madeira Orchis*, *O. foliosa*, produces spikes of flowers 18 inches high, whilst I learn that it is almost extinct in *Madeira* from the effects of two or three dry seasons. The double white and pink *Ragged-robins* are beautiful in this place; the tall yellow *Meadow-rue*, and its purple and other forms, grow and flower freely, as do also the *North American Liatris*, with their noble spikes of dense purple flowers, and our *English Bog-bean*, or *Menyanthes*. Borrowing a hint from Kew, we planted the blue *Himalayan Poppies* (*Meconopsis*), which have not yet had time to flower, but evidently intend to do so next season. The finer sorts of *Iris Kämpferii* are here as well as on the margins of the brooks.

On the sides of the pond are varieties of *Osmunda regalis*, which have shed their spores in the interstices of the corduroy path; the *Alpine Willows*, and the fine big-leaved *Saxifrage peltata* and *Hirculus*.

The next lower beds soon became the home of the *Japanese Primula* and the *Himalayan P. rosea* and *denticulata*, which, once planted, seed freely after the manner of biennials. The *alpine Primula viscosa* and other water-loving kinds thrive here.

The lowest beds of all were made to hold the *Spiræas*, of which the most beautiful are *S. Aruncus*, *S. palmata*, the white *Spiræa Ulmaria plena*, and the newer *S. astilboidea*, with its better kind, *S. floribunda*.



The other kinds I give in a list at the end of this paper. The North American Lilies, such as *pardalinum* and its varieties, also *superbum*, give autumn flowers, mingled with the *Spiræas* in this bed. The double *Cardamine* is a weed here carpeting the ground, and the Zebra Reed (*Eulalia*) is most effective.

Some very pretty variegated Sedges (*Carex*) do well in these beds. I am getting sphagnum established on the wet top bed, on which no doubt the Sundew will also re-establish itself. I had forgotten one plant which I owe to Mr. Wilson, of Wisley—the large American Cranberry.

From these remarks I think it is evident that a bog garden may be made into a useful as well as a very bright and interesting spot, as my High Beech garden has been for some years. Now as to the second garden made on an entirely different site and strata, and in a different manner. I venture to think that such a place may be made in any of the damp, springy spots such as I spoke of as existing in most gardens, or indeed wherever the clean waste from a pump, a tap, or from the house-top can be led. I wanted soil to raise what my friend Mr. D'Ombraïn has facetiously styled "The Broxbourne Alps," and as I had only a flat surface to deal with, I formed a square pond at the foot of the line of one side of this projected hillock, using the earth for the hillock. I kept to the terrace formation, making about three levels, and into them I led the drains from the paths adjoining the nursery quarters, taking means also for artificially flooding them occasionally, in case of drought. After very heavy rains the beds on all three levels are entirely covered with water, which gradually sinks down into the pond-like hole in the centre, in which Bullrushes, the giant Dock, and the Water Iris flourish.

It will be noticed that the idea of the clay banks is preserved, to retain the water a short time in the upper reaches of the pond. This pond was carefully puddled, as the loam resting on gravel is thoroughly porous. All the beds were then filled up with black peat and leaf soil, into which the plants were put. Most of the kinds thriving at High Beech do well here, and have the advantage of more space. The bolder foliage plants, such as the Bamboos *Metake*, *viridis*, *glaucescens*, and the large *Polygonum sachaliense*, attaining 8 to 10 feet in height; the dwarf varieties *P. compactum* and *molle*, with their *Spiræa*-like blooms, are useful at this time of the year. Then two or three of the American plants, such as the *Andromeda pulverulenta* and the dwarf *Ledums*, are beautiful winter evergreens and love the moisture. *Primula farinosa* and *involucrata* or *Munroi*, *Asclepias tuberosa* and its pink form, are at home, and the *Astrantias* are almost too free. *Claytonia sibirica* becomes a weed. *Corydalis nobilis* and *lutea*, in the higher beds, form beautiful yellow patches, and the *Trillium* and *Cypripedium* do well in peat on the banks just above the water levels. *Dielytra spectabilis* assumes quite another form to that usually seen, and *Dodecatheon Jeffreyanum* is 1½ foot high. The Willow Herbs have to be banished, from their determination to monopolise all the space. *Euphorbia*, *Cyperus*, and *Stylophorum japonicum* make dwarf groups. *Helonias bullata*, a beautiful pink-spiked plant, wants the moistest place; and all the purple *Hellebores*, or *Lenten Roses*, thrive. *Iris aurea* is beautiful in June or July, and some of the *Mertensias* thrive well there. The Duck-foot, or *Podophyllum*, are also at home. *Senecio pulcher* takes wonderfully to the moist upper beds, and some few other plants which I have named in my list of bog plants. I am inclined to think that some such wet, peaty beds should surround all well-constructed rock-gardens. There are so many of the Alpine plants which love moisture at the root, with in some cases full exposure to the sun, and in others enjoying shade. Some of the Alpine *Primulas* would grow well in shaded bog. I have *Primula involucrata*, *nivalis*, and *Wulfiana* all doing well in such positions, as well as the *Dryas* and several *Campanulas*, which soon dry up on the higher shelves of the rock garden; and with the many North American and Himalayan plants, such as *Meconopsis*, which are likely to enrich our Alpine gardens, this is the secret of culture. Where water can be retained, all bog gardens should have their central or through-running pond, and here the culture of water plants can be judiciously and easily joined with that of bog plants. Such is Mr. Campbell's garden, which I will attempt to describe somewhat to you.

His water supply is the overflow from the house roofs, stored in two or three tanks of various kinds, to secure a constant supply in case of need. It is on the sloping side of a hill, and consists of a series of small basins, very artistically surrounded with small rocky banks, on which many Alpine plants succeed. Each part is devoted to one or two, or at most three, kinds of Water Lilies in the deeper part, while the rather shallower sides have some water plants which do not require any great depth of water. Thus the upper pool, 3 feet deep, is devoted to yellow Nuphars of various sorts. In the next is *Nymphæa tuberosa odorata*, with a red centre, and a very fine form of the white Water Lily; in the shallower water being *Arum virginicum*, the flowering Rush (*Butomus umbellatus*), and the three forms of Bullrush (*Typha latifolia angustifolia*, and *minor*). The third pool is full of *Aponogeton*, or the Cape Pondweed, the yellow Iris and a locally found white variety, the *I. Kæmpferi*, *I. foetidissima*, and *I. pseudacorus*, a variegated form of *Carex riparia*, and the Zebra Rush (*Juncus zebrina*). On the rocks close down to the water, looking north, Ferns seem to do exceedingly well. The Marsh Ferns, North American *Claytonia*, and even the two *Hymenophyllums* cover the rocks; while the *Spiræas* and other bog plants to which I have alluded clothe the banks. A little island of sphagnum rising out of the water on a clay hillock has *Pinguiculas*, or Grass of Parnassus, and the mealy Primrose of the Scottish moors. Altogether this picturesque little garden, filling what would be other-

wise a shady, damp corner, is, throughout the spring and summer months, one of the most interesting parts of the garden.

In Mr. Lynch's water garden at Cambridge there is a large central pond with narrower beds on either side, and a much more extensive collection of plants are there grown.

I understand he has all the newer and rarer of the hybridised Water Lilies, including, I believe, the pink one, which is now beautifully in flower in several of the Hertfordshire gardens. The *Sagittarias*, or Arrow-heads, with the beautiful double one, thrive well in such a water garden. The Marsh Plantain is a distinct and bold-looking plant. The Water Mimulus (*M. luteus*) on the margin of the banks makes glorious masses of yellow.

During the past year I have had great difficulty in planting pieces of water with suitable plants. One was a piece of water where, the bottom being cemented, there was no foothold for the plants. This difficulty was obviated by putting the water plants in paraffin tubs cut in half, and sinking them to the required depths. The plants succeeded admirably, and are easily kept free from weeds. The other was a swift-running stream, about 4 feet deep, through the chalk. Some large specially made drain-pipes, into which the plants had been put, had the lower ends worked into the chalk bottom, and some large burrs built up in a hollow manner round groups of three or five prevented the plants and pipes being washed away, and at the same time gave plenty of shelter to the trout with which the stream abounded. A small island formed in the same manner, and covered with *Calthas* and *Sarracenias*, has been successful.

### THE CULTIVATION OF THE TOMATO.

THE usual fortnightly meeting of the Devon and Exeter Gardeners' Mutual Improvement Association was held at the Guildhall under the presidency of Mr. D. C. Powell. During the meeting a specimen of the *Richardia africana compacta*, a kind of dwarf Arum Lily, was on the table for inspection by the members. The plant was one which had been exhibited at a meeting of the Royal Horticultural Society on the 27th October by Messrs. Robert Veitch & Son of Exeter, when an award of merit was unanimously accorded it. The ordinary business of the meeting having been transacted, the Chairman introduced Mr. W. Rowland, who had promised to read a paper on "The Cultivation of the Tomato" to the meeting.

Mr. Rowland said:—"My Experience with the Tomato," seems to me, on second consideration, a better title to my paper than "On the Cultivation of the Tomato." I intend to give my own personal experience, both with regard to my successes and failures. It is well known in the fruit department a failure with the Grape crop is about the worst thing that can happen to a gardener; the same, I think, can be said in the vegetable department with regard to the Tomato. One stands in amazement when he thinks of the rapid strides this vegetable has made in public estimation. Forty years ago it was practically unknown to the general public, and plants were only to be found in a few private gardens, where, as a rule, they were grown as much for their ornamental nature as for their use. Now everyone knows the difference. It seems uncertain at what date the Tomato was introduced in this country, but probably it was during the latter part of the last century. It belongs to one of the largest of our natural orders—viz., *Solanaceæ* (the same as the Potato), and is found wild in Brazil and on the coast of Mexico. The first Tomato plant I ever remember seeing was growing uncared for in the moist bottom of a gravel pit. Apparently the seed had been carried there by a bird in the same manner as we see the Gooseberry bushes growing practically wild in the woods. I remember the plant had a splendid crop of fruit, also the first impression I had on tasting the fruit. Since I have become better acquainted with this plant the remembrance of seeing it growing in such poor soil has shaped my own mode of cultivation to a certain extent.

### INDOOR CULTIVATION.

Now I will try to explain my mode of treatment year by year, since I have taken a special interest in Tomatoes, giving both the good and the bad results. About six years ago Mr. Brock had erected a span-roof house. The thought struck me it would be a capital house for Tomatoes. The house is 8 feet high, with a 3 feet path in the centre, and a bed on each side 4 feet wide. The beds are not heated, but were filled up to within a foot of the top with soil that was taken out of the path. About 2 inches of coal ashes are spread on top, on which stand *Bouvardias* and *Cyclamens*; in winter a 4-inch pipe flows round the house. Having procured plants of the old Large Red variety, and potted them in 5-inch pots and placed the pots in a line on the ashes about 18 inches apart, I covered the pots with a ridge of loam, top-dressing with loam. The result exceeded my most sanguine expectations. The plants began to fruit so low on the plant that they rested on the ground. As the fruit began to swell I gave them plenty of liquid manure to swell up the fruit, the result being very little foliage to cut away, and plenty of good fruit.

For two years I kept to the plunging-in-pot system and had good results. I may add that I kept to the Large Red, selecting the best fruit for seed. After this the Large Red variety began to get too common, and I started with other sorts. At the same time I gave up the plunging system and planted out in the usual way. The result was that the plants grew so rapidly and made so much gross wood that I had to stop the copious waterings I had been in the habit of giving. Then it was I first became acquainted with the Tomato disease, which made its



appearance directly I stopped the water supply. For the first time Tomato growing was a failure. Next year I tried the planting out system; again failure was the result.

In the beginning of this year I thought failure the third time would never do. I must return to my first plan. So I started very carefully with four sorts—viz., Sutton's Earliest of All, which I find very much like the old Large Red, Hathaway's Excelsior, Dedham Favourite, and a very fine variety I had from Winslade. Instead of one row of plants in each bed I planted two, taking care to plant the bed the north side of the house first, so that the plants gained the full light from the south side. Afterwards I planted, or rather plunged, the pots on the south side of the house, taking care not to let the plants starve before plunging. The thought of the dreadful Tomato disease came over me, so I determined to be very careful in airing. In fact, I left the ventilator open day and night; at night about half an inch at top and the same at the sides, so that the air was kept fresh and moving. The plants started capitally, and began to set freely at the base of the plants; when the fruit got the size of marbles I began to feed and water freely. I also top-dressed to make the soil level between ridge and ridge. The first manuring I gave was one of native guano, which I scattered plentifully between the plants; then with the hose I gave them a perfect deluge of water. The next time I used Thomson's Vinc manure, well drenching it in. The third and last manure I used was Peruvian guano, which I sprinkled about in the same manner as the other manures, but taking the precaution to have the hose running at the same time to prevent the guano burning the roots, which were by this time running luxuriantly. A friend coming in at the time exclaimed that I had ruined the house of plants, as all the roots must perish. Result—a better house of Tomatoes I never saw, and all free from disease.

#### OPEN-AIR CULTIVATION.

My experience in open-air culture has not been great. Several years I planted out, but I think owing to the lightness of our soil I could do nothing with them. This year, for the first time, I tried plunging out in pots. The result was that I cut from the open by the middle of August and have had a succession till October, not cutting a single Tomato to ripen in heat, as many have done this sunless summer. I give an extract from a correspondent at Manchester. He says, "Living not very far from Manchester, I cannot boast of having the largest share of sunny days, but for fog and smoke I believe we can vie with any district in the kingdom. Nevertheless, I generally succeed in getting a good supply of Tomatoes well ripened before autumn frost sets in. I propagate by cuttings, putting them in about the beginning of September, and propagating from them in the following spring. In this way plants bear and ripen sooner than those produced from seed. Now, my experience of plunging in pots is that I get the same result as propagating from cuttings. The great difficulty we have now in keeping cuttings through the winter is the disease."

#### DISEASES OF THE TOMATO.

The most common is the *Cladosporium*, which affects the leaves. Its first appearance is marked by whitish, woolly patches on the under-side of the leaves, which rapidly increase in size and number, at the same time deepening in colour till they are of a dark brown. Another disease—*cladosporium lycopersicum*—unlike the other form, attacks the fruit. Black spots are observed where a clean eye should exist. It rapidly spreads, and, by the time the fruit is ripe, it has become a mass of decay of a jet-black colour. I have never seen this disease in plants grown under glass. I had a few fruits attacked with it towards the latter part of the season in the open. *Dactylium roseum* appears in the form of a rose-coloured mildew upon the foliage. Though, fortunately, not very common, it is a most deadly disease, affecting plants in the open as well as under glass. *Peronospora infestans* is identical with the ordinary Potato disease; it attacks the Tomato both in the open air and under glass. It first appears in the stems and foliage, and in severe cases spreads to the roots, in which case the plant speedily dies. It is identified by the peculiar odour that is noticeable in a field of diseased Potatoes. A positive remedy for *Peronospora* is said to have been found in sulphate of copper, the Inspector General of Agriculture to the French Institute having recently reported that he had found a solution of six parts each of the sulphate and of lime in a hundred parts of water, the plants to be thoroughly syringed with the liquid twice or thrice in succession, watering at the same time with a solution of sulphate and ammonia and a little soot to enable the plants to grow out of the disease. My advice is, "Prevention is better than cure." Keep the plants in a perfect state of health by carefully looking after the airing and watering. Wherever the shutting up system is practised then the disease is invariably present, and since I have left the ventilators open a little night and day I have had no disease.

I think the only insect which attacks the Tomato may be said to be the aphid, or black or green fly, which may be dealt with by fumigation, or syringed with tobacco water. If red spider or thrips occur, it is in consequence of gross neglect.

#### VARIETIES.

The following I believe to be the best at present in cultivation:—Perfection for its solidity, Hathaway's Excelsior for sure-setting properties, Dedham Favourite for its handsome shape, King Humbert because it does well in the open air, Hackwood Park, the old Large Red, a sure and abundant cropper, and for a pretty yellow variety Golden Sunrise. Flying Dutchman, a new variety, sent out by Messrs. Veitch of Exeter is highly spoken of both for its fine flavour and free setting

qualities. Surprise, I have no doubt, will be caused by my leaving out Ham Green Favourite, but as I have not given it a fair trial I do not feel qualified to speak for or against it. From what I have seen of the fruit I should think it is of great merit. You will see by the plan that the house I grow Tomatoes in has not a long rafter, about 8 feet, I believe. It is necessary that the plants fruit low. By plunging in pots the plants are stopped from making that over-vigorous growth, and by the time the plants require more nourishment than they get from the soil in the pots, roots are parted from the stem above the pots, top-dressings of loam are given, and a good crop of fruit is secured from the base to the top of the plant. Mr. Bartlett was telling me he had been speaking to a gentleman who had seen Tomatoes grown largely in Spain. He says they are planted in trenches and flooded with water; and as it is a native of the seashore, I feel sure that plenty of water is one of the most essential elements for the Tomato.

In the discussion which followed, Mr. Lansdale said he had tried a good many varieties of Tomatoes for outdoor growing but had always found the best to be The Challenger. Mr. G. C. Crabbe (Prospect Park) endorsed Mr. Lansdale's remarks as to The Challenger variety. He said his first experience with this variety was when he had some, which were dead ripe, sent to him from his home in the eastern counties early in the second week in September. He thought that this showed that they were a good variety. Mr. Ebbutt (Winslade Gardens) said whatever variety of Tomato they grew the principal thing they would want was a firm solid loam to grow them in. With regard to disease he said he believed it generally came from indifferent management. As to water and temperature, he believed they could deluge Tomatoes and get fine fruit as long as they had good firm soil to start with. The temperature should not be less than 50°, and should be between that and 60°. Mr. A. George (of Heavitree, and late of Bickon Gardens), said by growing the plants in 10-inch pots and placing these on a hard surface they would get sure growth.

Mr. P. C. M. Veitch, Royal Nurseries, spoke as to the cultivation of outdoor Tomatoes. He had had experience in the Humbert variety. His method was to pot them hard in outdoor frames, and when they were set to plant them out in nothing but loam. This resulted in an extraordinary crop. There was not a sign of disease, he believed simply because the plants had no manure whatever about them. He thought under this system of growing the plants were very much less liable to disease out of doors. With regard to disease indoors, a good many had said it was due to stagnant air, and this was no doubt so to a certain extent; but he thought disease was also in a good many cases due to alternative temperatures at the roots. He had read of a method of curing Tomato disease. This consisted in putting the diseased plants into a temperature of over 80°. Mr. Hope said he had not heard anyone say whether one variety was subject to the disease more than another. As Potato varieties were thus subject, he thought it possible that the Tomato might be. Mr. Hope referred to the Old Red Tomato, and remarked that it was unfortunate that there was a prejudice against it among fruiterers, on account of its corrugated form, as it was one of the best varieties. The yellow Tomato was also one against which he believed there was a prejudice, but it was also a very good variety. Mr. Locke said he had heard that some people had altogether cured indigestion by eating the fruit. The meeting closed with vote of thanks to Mr. Rowland for his lecture, and to Mr. Powell for presiding.

#### BLACKLOW HOUSE, ROBY, LIVERPOOL.

THERE are many places round about Liverpool of great interest to the lover of horticulture, and on the occasion of a recent visit I had the privilege of visiting the gardens attached to Blacklow House, Roby, the residence of Edward Banner, Esq., and of making the acquaintance of the able gardener, Mr. R. Pinnington, who is a frequent contributor to the pages of the Journal.

A short run from Lime Street brought me to Roby station, and a few minutes' walk to the entrance to Blacklow House, and I at once saw that, although not extensive, the grounds and gardens had been laid out with great taste, and that every care was taken that they should be maintained in the best of condition. Near the entrance gate is one of the features of the grounds—a small but beautifully planned pond, spanned by a pretty rustic bridge and surrounded with rockeries filled with hardy Ferns and with walks spanned by arches of old-fashioned Roses, than which there is nothing better adapted for such a purpose. The pond and its surroundings formed a charming spot, and one which it was hardly to be expected would be found in such a place. Not the least of its charms was that it was so naturally constructed that it seemed as if Mr. Banner, when the house was erected nearly forty years ago, had chosen some natural pond and planted his house close by. It is not so, however, but the pond and a considerable portion of the ground adjoining was a marsh, and part was formed into a pond and the remainder reclaimed, thus making what would have been both unsightly and unhealthy into a thing of beauty. This art, which will not obtrude itself, is what should be aimed at in all such arrangements.

Passing on we come to one of the lawns in front of the house, where one of the first things which attracted my attention was one of the arrangements which are so natural and so beautiful that we are led to wonder we had not thought of it before—a bed of Roses carpeted with Musk. The bed is in a conspicuous position, and the "happy thought" which carpeted the bare earth beneath the Roses with a plant so neat in habit, pretty when in flower, and with so exquisite a perfume



deserves a special commendation. On the same lawn were beds of Pelargoniums, and a border filled with Asters, Chrysanthemum coronarium, and other useful flowers for cutting. Mr. Banner likes to have these in his garden, as, with the benevolence and kindly thoughtfulness for which he is distinguished, many flowers are sent to various charitable institutions in which he takes an interest.

Between one of the windows of the house and the conservatory was a small carpet bed, well planned and carefully kept, and although I make no secret of my general dislike of such formal arrangements I must confess that the bed was entirely in harmony with its position, and that it would be difficult to substitute a less formal arrangement which would be equally appropriate to its surroundings. The conservatory was filled with flowers in perfect health and beautifully in bloom, among them being Begonias, Fuchsias, &c., the roof covered with Passion Flowers and Tecomas. The Begonias were seedlings of Mr. Pinnington's raising from Sutton's well-known strain, and reflected credit on the strain and upon the cultural skill of the grower. Fuchsias in hanging baskets were very good indeed.

Passing from the conservatory to the early vinery we found the stage filled with well-grown Cockseombs, attractively arranged with a bank of Adiantums. Very fine here were two grand Ferns, specimens of *Goniophlebium subauriculatum*, a native of the Malay Archipelago. These specimens were splendidly grown. Caladiums were very good, and *Alocasia macrorrhiza variegata* was also very fine. The second vinery was also filled with plants such as Caladiums, Neriums, and a fine piece of *Cibotium Schiedei*. The Vines, which are young, were carrying fine serviceable bunches of Grapes, especially notable being Madresfield Court and Alicante. The object here is not to obtain monster bunches but those of good size for table purposes, and this is well attained, although plants are grown under the Vines.

With the fernery I was much pleased with its arrangements. Evidently the same taste which had laid out the grounds had been at work here also. Notable was the way in which a large number of Rex Begonias were grown in a group and not in the scattered "patchy" manner in which we see them so often in ferneries. A grand specimen by the little lakelet was that fine Fern *Angiopteris evicta*. This was specially noticeable. Many other good Ferns were to be seen, but space will not permit of entering into detail. The roof was covered with a fine plant of *Bougainvillea glabra*, one of those old flowers which will never be superseded. The walls were covered with *Ficus repens*, the dark foliage of which made a fine background for the graceful fronds of the Ferns. Curious, too, was the way in which this *Ficus* had taken possession of the door of the fernery. It had crept along and taken hold of the door, and, not content with covering the woodwork, had attached itself to the glass, and covered it closely with a network of rootlets and foliage. The opening and closing of the door did not seem to affect the *Ficus* in the slightest. I should like to know if a similar instance has been met with.

We then entered one of the most pleasing features of the garden, an avenue or pergola of espalier trained fruit trees. These form arches over the avenue which is 120 yards long, with side avenues of about 30 yards each. The framework, which is of iron, is substantially constructed, and is covered with the foliage of the trees, which are mostly about forty years old. Did they never produce fruit these avenues would be very attractive, but the crops produced are enormous. I was glad to learn that this is the rule with these trees, thus showing that, with judicious branch and root-pruning and ample feeding, even old trees can be made to yield large crops of the finest quality. Carrying grand crops were such as Williams' Bon Chrétien, Fondante d'Automne, Citron des Carmes, Hacon's Incomparable, Marie Louise, Easter Beurré, Beurré d'Amanlis, Beurré Capiaumont, Beurré Diel, Prince Consort, Passe Colmar, and several other equally good Pears. The orchard, which was filled with old standard trees, was what may well be termed a picture, so seldom are such good results achieved with old trees. Apples were a good crop also. Nearly 700 Strawberries are grown in pots; these looked well, having fine stout crowns.

Most of the fruit in the Peach house, which is 145 feet long, in two divisions, had been gathered, but the splendid fruits of Princess of Wales, Albatross, and Gladstone Peaches, and Pineapple Nectarine showed how successfully they were cultivated. Planted between the trees were Tomatoes literally roped with fruit, being such sorts as Sutton's Perfection and Golden Perfection, Hackwood Park, and a selected seedling. Then the stove was looked through, where were to be seen a number of plants for table decoration, Crotons, Calanthes, and some other Orchids, all well grown. Two other houses filled with miscellaneous plants were visited, and a very useful range of pits in five divisions, built only six months ago, some heated and others unheated, occupied some little time. These were filled with Cucumbers, Tomatoes, Cyclamens, Tuberous Begonias, which are here well grown, Cinerarias, Calceolarias, &c. A very large number of plants of the old double white Primula were here, and were pictures of health.

Time only permitted of a look through the vegetable quarters, which were stocked with vegetables of the most advanced varieties. Large quantities of Peas of various kinds are grown, and a succession is kept up over a long period. I find I have omitted the Chrysanthemums, which were evidently carefully attended to; and from their growth and luxuriant foliage gave the highest promise of grand flowers. Mr. Pinnington is no "rule of thumb" cultivator, but has taken many notes relating to the peculiarities of the varieties of the "Queen of Winter Flowers." It afforded me much pleasure to make his acquaintance, and to find that his practice is equally as good as his

cultural notes are valuable to the Journal, and I hope he will favour us with some of his observations of the Chrysanthemums.

It was pleasant to hear of the good relations existing between employer and employed. It is well for horticulture that it has such patrons as Mr. Banner, who has reason to be gratified with the results of his taste and expense.—S. ARNOTT.

### THE AMERICAN BUCKEYES.

THE North American forests are comparatively rich in Horse Chestnuts, or Buekeyes, as we are still apt to call them in America. The genus *Æsculus*, as it is now known, to which these plants belong, only contains thirteen species. Eight of these are American, if we include two little-known shrubs of southern Mexico and of the northern countries of South America, and another shrub of Lower California. Outside of America the genus is represented in south-western Europe, in the tropical forests of India, Assam and Burma, in northern and in central China, and in Japan. The different species fall naturally into two distinct sections. In the first the flowers are furnished with five petals, and the walls of the fruit, or pods, are thick and covered on their outer surface with sharp prickles. The common Horse Chestnut, which is a native of the mountains of Greece and which is now one of the most familiar of all ornamental trees, and the Indian species belong to this section. In the plants of the other the flowers have only four petals, and the fruit is smooth with thin walls; they are American, Chinese, and Japanese, and to them the name of Pavia was formerly given. The two sections are united, however, by one of our American trees, the so-called Ohio Buckeye, which has the flowers of the Pavias and rather thin-walled fruit, which, in its early stages at least, is covered with the prickles of the true Horse Chestnuts. And so it has seemed better to consider the Horse Chestnuts and the Buckeyes generically identical.

Five species grow naturally within the territory of the United States. None of these are so often planted here, however, as the European Horse Chestnut, and none of them, perhaps, are individually as beautiful as that tree, which surpasses all other members of the genus in the massiveness of its habit, in the density of its foliage, and in the magnificence of its great flower-clusters. But the massiveness and the formality of the head of the Horse Chestnut, while they make it a splendid object in some situations, render it a difficult tree to associate properly with other trees; and it usually looks out of place as an element in a picturesque landscape. Its value, however, for formal plantations, either in city streets or in the avenues of architectural gardens, was recognised in Europe two centuries ago, and no other tree has yet been found which surpassed it for such purposes.

If American Buckeyes are not equal to their Old World relative in breadth and solidity of head and in floral splendour they in their turn surpass it in grace and in their adaptability to harmonise with the other trees of the forest; and for general planting in this country they are, therefore, more valuable, especially the Sweet Buckeye, the *Æsculus octandra* of botanists, the largest, or, at any rate, the tallest of the American species. It is an inhabitant of the Alleghany region from western Pennsylvania to Georgia and Alabama, and of the Mississippi Valley. When it grows at its best, as on some of the slopes of the high mountains of Carolina and Tennessee, it is a noble tree, sending up a straight shaft 2 or 3 feet in diameter, sometimes free of branches for 60 or 70 feet, and often reaching a total height of 90 feet. The head is rather narrow and formal, and the branches are small and often pendulous. The leaves are of ample size, and are dark yellow-green and rather paler on the lower than on the upper surface. The flowers are peculiar in the unequal size of the petals, the limbs of the upper pair being much smaller than the others and borne on slender claws which much exceed the calyx in length. The fruit is pear-shaped, often 2 inches long, and is beautiful and conspicuous. There is a variety of this tree found in some parts of the southern Alleghanies and in Texas with red or purple flowers. The yellow and red-flowered varieties are both hardy as far north as New England, and they are both useful ornamental trees, growing rapidly in good soil and harmonising with the native trees of the north; and, unlike the Old World Horse Chestnut, they are not seriously injured by fungal diseases.

The so-called Ohio, or Foetid Buckeye, *Æsculus glabra*, is the second of the Horse Chestnuts of eastern America which grows to the size of a tree. It is not as large as the Sweet Buckeye, and it is unusual to find it more than 30 feet in height, although sometimes, under the most favourable conditions, it grows to fully twice that size. The trunk and branches are covered with dark bark, which separates readily into thin scales, and these make it easy to recognise the tree at a glance, even in winter and while still very young. The foliage is lustrous, dark yellow-green, and rather conspicuous from the yellow midribs and veins of the leaflets. The flowers are of a pale yellow-green colour, the petals nearly of the same length, although the lateral pair are much broader than the others. The Ohio Buckeye, which got its name from the fact that it was first known from the banks of the Ohio in Pennsylvania, belongs to the valley of the Mississippi; it is nowhere very common, and is even less common now than it was a hundred years ago. This is due in part, no doubt, to the fact that this tree always selects rich soil near the banks of streams or on river-bottoms, and has had to make way for the crops of the farmer. It is as hardy at the north as the Sweet Buckeye, but, from an ornamental point of view, is a much less desirable tree and hardly worth planting except as a curiosity.

The other Buckeyes of the east are inhabitants of the south, and do



not attain to the dignity of trees. The most common of these two plants and the type of the old genus *Pavia* is the Scarlet Buckeye, or *Æsculus Pavia*. This is sometimes a low shrub, producing its flowers when only a few inches high, and sometimes reaches the height of a dozen feet or more with many slender straggling stems. It is widely distributed and very common in all the coast-region of the Southern States, from Virginia to Texas, and west of the Alleghany Mountains, extending as far north as Kentucky and Missouri. The flowers are 2 or 3 inches long and bright red; they make a great show therefore, although individually narrow and placed rather remotely in narrow few-flowered clusters; they appear with the unfolding of the leaves and offer a warm and cheerful welcome to the traveller from the snow and ice of the north as he first reaches the south in early spring. Although this pretty plant cannot withstand the severity of our northern winters, the name is often found in the catalogues of nurserymen who confound it with some of the red-flowered varieties of the Sweet Buckeye.

The fourth species of eastern America is the rarest of all our American Horse Chestnuts, although, strange to say, it is more commonly planted than any of the others, and, therefore, perhaps the best known. It is the *Æsculus parvifolia* or, as it was once called, *Æsculus macrostachya*. It is an inhabitant of the foot-hills of the extreme southern Alleghanies, where the younger Bartram found it more than a hundred years ago, when he crossed from the sea-board to the head-waters of the Tennessee and saw, before any other educated man, the beauties of that marvellous region, covered then with one great forest, save where the Cherokee had made for himself a home by some swift-flowing river. The Dwarf Horse Chestnut, as the plant which Bartram discovered is now most often called, spreads in cultivation into a broad bush of compact habit, sometimes 20 or 30 feet across and 6 or 8 feet tall. From spring to autumn it is a handsome plant as it stands out singly on the lawn, and in early summer it covers itself with long narrow spikes of slender creamy white flowers, made conspicuous by their long exserted stamens and yellow anthers. Although it is a southern species, peculiar to a region whose plants are not, as a rule, hardy at the north, the Dwarf Horse Chestnut flourishes in all parts of New England, where it flowers abundantly, although the season is rarely long enough for the fruit to ripen.

The last of the North American Buckeyes is an inhabitant of California—the *Æsculus californica* of botanists. It is a low tree, sometimes 30 or 40 feet in height, with a short stout trunk, often much enlarged just above the ground, and spreading branches, which form a wide dense head; or more often it is a shrub with stems 10 or 12 feet high, forming dense thickets. It is widely distributed in all the foot-hill region of the Coast ranges and of the western slopes of the Sierra Nevada, from the northern almost to the extreme southern part of the state, lining the banks of many streams and the sides of innumerable canons. The flowers of the California Buckeye are more beautiful than those of the other American species; they are white or pale rose colour, an inch or more long, with broad spreading petals and long conspicuous stamens, and are produced in long, very compact, many-flowered clusters. The fruit, which is pear-shaped and rather larger than that of our other species, is also ornamental. The only drawback to the California Buckeye, as it appears in the valleys of California, is that the leaves, which appear early and are fully grown when the tree is in flower in May, ripen under the influence of the hot sun very early and often fall by midsummer, thus leaving the branches bare for a considerable part of the year.

The California Buckeye is not very often cultivated, although it was first sent to Europe nearly forty years ago and flowered in England as early as 1858. Unfortunately it is not hardy in the Eastern States, and probably outside of California it will never really flourish except in climates similar to that of the Pacific coast. It is well worth planting, however, in all the Mediterranean countries, and perhaps in Australia, as an ornamental plant, for it is one of the handsomest of the whole genus, and when in flower one of the most beautiful of all North American trees.—(*American Garden and Forest*.)



#### FRUIT FORCING.

**PEACHES AND NECTARINES.—Earliest House.**—The trees in the house closed early in December, and having been started at an early period the previous season, will now have the blossom buds well advanced towards flowering; but trees not previously forced will be several days later in showing colour in the flower buds. When this takes place syringing the trees must cease, but maintain a genial atmosphere in the house by damping the floors and borders on bright mornings and in the early part of fine afternoons. If the inside borders are found upon examination at all dry, give a thorough supply of water at a temperature slightly in advance of that of the house. Weakly trees may have liquid manure, supplying it rather thick after the soil has been made properly moist with water. Where there is a redundancy of

blossoms remove those on the under side or back of the shoots, and thin them elsewhere where too crowded. Admit a little air constantly at the top of the house, and this, with the warmth in the hot-water pipes, will keep the air in motion, and moisture will be deposited on the glass instead of on the blossoms, as frequently occurs in a close atmosphere to the prejudice of their setting fruit. The temperature may be maintained at 55° by day and 50° at night in mild weather, but 5° less in severe weather is more favourable to the trees than the higher temperature, and the setting is not prejudiced if the temperature fall to 45° at night, or in very sharp weather to 40°. Quick work is rarely good work, and it is necessary when the flowers show the anthers clear of the petals that the house be freely ventilated, avoiding cold draughts, and not exciting the trees by too much fire heat. To keep them, however, in steady progress, the temperature must be raised early in the day to 50°, and kept between that and 55° through the day with a little ventilation at the top of the house, and through the day a temperature of 60° to 65° should be maintained from sun heat. The aim should be to have stout blossoms, sturdy stamens well raised above the pistil loaded with abundance of pollen, well developed pistil and properly formed ovary. These all require time to develop, and aëration for their perfecting, then recourse can be had to fertilisation by shaking the trellis or brushing over the blossoms with a camel's hair brush on fine days after the house has been ventilated some little time. The pollen by either of those processes is distributed in a golden shower visible in the sunlight, and when this is the case, the set is generally a good one, even without artificial fertilisation, and sometimes the disturbance of the air by lightly syringing the trees serves to effect the setting in a satisfactory manner.

**Second Early House.**—To have fruit ripe at the close of May or early in June the trees must be started without delay, but it is desirable to merely close the house and only employ fire heat to exclude frost during the first fortnight, ventilating freely at and above 50°. This will gently incite the sap and buds. Afterwards, say at the new year, fire heat should be employed to maintain a night temperature of 40°, and to insure 50° by day, above which ventilate freely. This will bring the trees on sufficiently to insure sturdy blossom, and once they make a move it is necessary to keep them in steady progress. Sprinkle the trees and house on fine mornings and afternoons, but in dull weather omit the afternoon syringing, as keeping the trees constantly dripping with water has a softening and weakening tendency. If the house has had the roof lights removed the inside borders will have been thoroughly moistened through to the drainage, and not need water for some weeks, but where the roof lights are fixed the border may need a thorough supply of water, and if dry it will be necessary to repeat the applications, for nothing short of thorough moisture in the border ought to satisfy the Peach grower. Outside borders should be protected with dry fern or litter, a few inches thickness of dry leaves with a little litter over them answers admirably. Spare lights may be used to throw off heavy rains and snow, and for securing a more uniform temperature in the border.

**Succession Houses.**—The trees are best pruned and dressed after loosening them from the trellis. Cut out weak attenuated branches, and where crowded thin well, leaving sufficient of last season's growths for bearing, with space between them for training in those intended to displace them. Thoroughly wash the house, the trees with soapy water, and if necessary apply an insecticide, for aphides, red spider, thrips, and scale lurk about the trees in some form ready to become active and multiply when forcing operations are commenced. Secure the branches at once to the trellis, leaving spaces in the respective ligatures for the swelling of the branches and shoots. Remove the loose surface soil down to the roots without disturbing them, and supply good turfy loam in lumps from the size of a nut to an egg, with an admixture of about a fourth of well-decayed manure, not covering the roots more than 2 or 3 inches. If the trees are disposed to make long-jointed wood it is advisable to avoid nitrogenous manures, also potassic, especially in nitrate form, and supply bonemeal, which, furnishing phosphoric acid and phosphate of lime, will tend to promote sturdier growth, and where there is a deficiency of lime, sulphate of lime or gypsum may be used advantageously as a top-dressing. These substances are useful in the case of gummy affections, taking equal proportions of steamed bonemeal and gypsum, and applying it at the rate of half a pound per square yard before growth takes place in the trees. On the other hand, where trees make too little wood and are more prolific of fruit than desirable for attaining to a good size, the borders may be dressed with a combined phosphatic, potassic, and sulphatic manure, say superphosphate of lime two parts, nitrate of potash one part, and sulphate of lime two parts; mix, and apply at the rate of half a pound per square yard when the trees are starting into growth, or a little earlier in the case of weakly trees. These elements only benefit the trees in the year of application, except the sulphate of lime, therefore to be of service they must be applied when they can be appropriated and transformed into plant constituents. This is when the trees are in growth, and to benefit the fruits the manure must be available whilst they are swelling. Peach trees, however, require other manurial elements, as magnesia and soda. Not perhaps directly, but indirectly these substances contribute largely to the health of stone fruit trees, and without healthy trees useful crops are not forthcoming. Kainit supplies those elements as well as potash, and by using it along with bonemeal—two parts bonemeal to one part kainit—the trees are benefited in the year of its application and in the succeeding one, but the mixture must be applied in autumn or before growth takes place in the trees. The bonemeal and kainit mixture is



much cheaper than the other, and half the quantity suffices, or 4 ozs. per square yard. Carefully examine the inside borders, and supply a thorough soaking of water if dry, as dryness at the roots will cause the buds to fall later on. Keep the houses as cool as possible, so as to insure complete rest.

**STRAWBERRIES IN POTS.**—Plants introduced into the forcing house early in the month have commenced swelling their crowns, and the trusses of flowers showing, the temperature may be advanced to 60° to 65° with a free circulation of air, but avoid a high temperature by artificial means; 50° to 55° is sufficiently high at night, and on dull, cold days. Maintain a genial moisture in the atmosphere; syringe the plants lightly in the afternoon of bright days, but early so as to let the foliage have time to dry before nightfall. Look the plants over daily for water, and supply it to all those in need. Keep a sharp look out for aphides. They frequently cluster about the crowns, and should be subdued by fumigating on two consecutive evenings, having the foliage dry. More plants should be got ready for placing in Peach houses to be started at the new year. These are best placed in frames or houses from which frost is excluded, as the plants can then be drafted into the forcing structures as required. The dead leaves only should be removed, loosening the surface soil, removing it, and top-dressing with turfy loam containing a good handful of approved artificial manure to each gallon of soil, and afterwards feed with dissolved bone manure two parts, and nitrate of soda one part mixed, and take a pinch between the thumb and finger and sprinkle it on the surface of the soil, keeping it clear of the foliage and fruit. This must not be given until the plants are in growth. See to the drainage of the pots, rectifying it if defective, and wash the pots clean. Plants for introducing later are best in frames, except the late batches, which will be quite safe in their outside quarters plunged to the rim in ashes, and in sharp weather a light covering of dry fern or litter will make all safe, removing it whenever the weather is mild. If snow fall this will be quite unnecessary.

#### THE KITCHEN GARDEN.

**TOMATOES.**—The growth these make at this time of year is usually of a somewhat sickly character, and it is decidedly a mistake to force them much. On the contrary, the plants, whether in pots or ridges of soil, ought to be only just kept moving, a dry atmosphere being maintained with the aid of fire heat and a good circulation of air. Neither fruiting nor store plants thrive in a cool or rather damp greenhouse, an intermediate temperature best meeting the case. In order to have plenty of ripe fruit during the winter crops ought to have been set not later than September, a long succession then ripening during the autumn and winter. Any flowers that may show at this late period rarely open and set properly, the majority falling before expanding. It is yet advisable to keep healthy plants, whether young or old, as these will grow away more strongly directly the days become longer, the old plants breaking very freely, while all will produce good crops well in advance of any that may be raised or shifted into larger pots during January. Now is a good time to check the spread of disease and to exterminate the troublesome white fly or *Aleyrodes*. Fungoid diseases spread most rapidly in a moderately warm house and moist atmosphere, or such as cannot well be avoided in April. A strong dry heat is evidently the best preventive, subjecting the plants occasionally to a temperature raised by fire heat to 85° or more effectually destroying most of the germs. No kind of insecticide nor repeated fumigations are of much avail against the white fly, but what these cannot stand is an atmosphere well charged with sulphur. If the hot-water pipes are coated with a mixture of milk and sulphur, this being renewed occasionally, every time they become extra hot strong fumes will be given off, and ere summer arrives not a live *Aleyrodes* will be found in the houses so treated. The sulphur fumes are quite harmless as far as plant life is concerned.

**THE MUSHROOM HOUSE.**—While the mild weather lasts fire heat ought to be used very sparingly, or otherwise the crops will be brought on too rapidly, and be of poor quality too. The other extreme is not advisable, as without fire heat or sufficient fresh heating material in the shape of a newly formed bed to raise the temperature to about 55° the chances are late-spawned beds will not become productive till next February or March. Beds raised well clear of the floor are the most reliable at this time of year, these getting the benefit of any warmth going underneath. Directly over where the hot-water pipes or flues run the first Mushrooms are obtained, and beds may also be forwarded considerably by the formation of a brisk hotbed of leaves and manure directly under them. When the latter have had the effect desired they may, if desirable, be returned, watered gently if at all dry, freshened somewhat, and then formed into a square bed. Next enclose on the top of this, with the aid of stakes and deep boards, about 6 inches of well-prepared horse droppings, making these firm in the usual manner. Spawn this directly it is well warmed through, or directly there is no likelihood of a dangerous increase of heat, and soil over at then or any time during the next three weeks. This may be the means of obtaining very acceptable Mushrooms next spring.

Beds that have been spawned for some time, or say six weeks ago, and not yet showing Mushrooms should be examined, and if dry be given a gentle yet thorough soaking of lukewarm water. More likely than not this season they will be found too wet, and an excess of moisture is prejudicial to either the running of the mycelium or a satisfactory progress of the crops that show. Therefore be cautious with the use of the syringe, and also clear off all saturated mulching material, substituting some that is fresh, soft, and dry. Just now the Mushroom

house is of the greatest service in forcing Seakale, Rhubarb, and Swede tops, the latter only in the case of Seakale roots being scarce, Chicory also being forwarded and Endive blanched to perfection in these much darkened places. When there is a flue running through the house set pots or boxes filled with Seakale directly on this, and if the soil is kept thoroughly moist top growth will be rapid and fairly strong. As a rule about a dozen strong roots of Chicory are enough to introduce into the Mushroom house at one time, as they give heavy crops of leaves, of which not many at a time are mixed in salads. Blanched Endive keeps badly and it is unwise therefore to place many at a time in the Mushroom house, two dozen every week being ample for most establishments. Surround the roots with moist soil, dryness tending to make the tops hard and bitter.

**OPEN-AIR MUSHROOM BEDS.**—Those who depend solely upon these will most probably fare badly this season, the weather being altogether against them. The ordinary heavy coverings of strawy litter have been of little avail against such frequent and heavy storms of wind and rain. Tarpaulins, if securely fixed, would have kept off the rain and prevented the beds from being badly saturated, but even these are somewhat risky. Over-heating after spawning and soiling is the most frequent cause of partial or complete failures with ridge-shaped beds, and not till all risks of this are past may tarpaulins be used with safety, as these serve to enclose the heat as well as exclude cold winds and rain. Fortunately Mushroom spawn is not so easily destroyed as some may think, and it would be unwise to break up a bed prematurely, as a crop may be forthcoming directly warm weather sets in next spring. They must not be left to take their chance though, and it is most advisable to examine all the beds on the first fine and mild day, clearing them of all saturated mulching material, and covering afresh with not less than a foot in thickness of dry litter. Much may be done towards warding off heavy rains by means of thatched hurdles meeting together well over the beds. There ought also to be a clear course for all the water that runs from the ridges, as if it remains about them far too much moisture will soak up into the beds. Beds in full bearing to be uncovered as little as possible, and by the same man each time.

#### PLANT HOUSES.

**The Stove.**—During the past mild weather the temperature has ranged higher at night than is usual for this structure. Some care is now needed to keep the temperature as low as possible consistent with external conditions. If severe weather should set in the temperature could not be maintained without unduly heating the hot-water pipes, which is injurious, and the reverse of economy. If the plants are gradually hardened to a temperature of 60°, or a few degrees higher on mild occasions, no check will result to the plants if that temperature, or a degree or two lower, is maintained during severe cold weather.

**Watering.**—Let all watering be done in the early part of the day, and some care is needed not to give the plants too much. Plants are easily overwatered at this period of the year, when growth is practically at a standstill. On the other hand, they must not be allowed to suffer by an insufficient supply. Employ the syringe whenever there is a prospect of a fine day, in fact twice daily when the pipes have to be made fairly warm to maintain the desired temperature. Failure in damping and syringing during the winter months often ends in the plants being seriously injured by thrips. A warm dry atmosphere is favourable to the spread of these pests.

**Cleaning.**—Thoroughly clean plants that are infested with insects, as well as the houses in which they are grown. A few days devoted to thorough cleaning at this season of the year will save weeks of sponging at a busy time. It must be remembered that cleaning every corner in the house is equally as important as cleaning the plants. The glass inside and out should be washed, and the walls whitewashed, so that the house will be light and sweet. Every ray of light possible must be admitted at this period of the year.

**Hotbeds.**—Where Allamandas, Clerodendrons, Bougainvilleas, and other plants are needed early, lose no time in making up a hotbed to give them a start. It is surprising how quickly plants start into growth when stood on or plunged in a bed of fermenting material composed of litter and dry leaves. If plenty of Oak or Beech leaves can be obtained they may form three parts of the mixture. The leaves must be dry, and the whole carefully mixed together in some position where it will be safe from rain, and turned two or three times before it is taken into the house and the bed made up. Make the bed firm so that fermentation will not be rapid and violent heat produced. Young *Dracænas* that have been recently placed into larger pots will make rapid progress in a temperature of 60° if the slight bottom heat is given them that a hotbed affords.

**Eucharises.**—Plants that have flowered and need repotting may be attended to as soon as the hotbed is ready. They soon become established when gentle bottom heat is given them, and they start more quickly by the aid of heat and moisture from fermenting material than is the case when plunged in cocoa-nut fibre refuse and bottom heat supplied by hot-water pipes. Plants that have been resting in an intermediate temperature will soon push up their flowers under the conditions advised for those to be repotted.

**Cyperus distans.**—If these are not throwing up fast enough it is a mistake to place them in heat, in fact the plants are quickly ruined by such treatment. They will advance without injury in a temperature of 50°, but in a warmer house they often fail to open properly, and the foliage becomes drawn and weak, and is broken when the plants are



moved about. Few plants are more useful for furnishing purposes either in pots or for cutting.

*Nepenthes*.—In the prospect of severe weather setting in these plants should be arranged at a safe distance from the glass. We have had them injured by being too close during very cold weather. In houses that are well glazed the plants will be perfectly safe if the top leaves are about 18 inches below the glass. Keep these plants liberally watered and freely syringed. Thrips soon attack them in a dry atmosphere, and these pests are difficult to destroy because strong insecticides cannot be used without injury to the plant. The method we have found most effectual is to lift the plants down carefully and plunge the baskets in a tank of tepid water. If the leaves are sponged with water, and the plants thoroughly syringed, they may be cleaned by this simple method.

## THE BEE-KEEPER

### APIARIAN NOTES.

#### WATER POOLS.

WHILE the temperature keeps low bees do not fly much during December, but as soon as the days begin to lengthen they commence breeding, are more active in the hive, and are thereby better able to resist the evils of low temperatures; but are also more liable to fly abroad, which, if there is nothing to contend against, is much to their advantage. Water pools, resulting from melted snow or rain over a frozen surface, are much against bees, as many of them are drowned. These should be drained away wherever practicable, and where not should be so covered as to prevent any risk of bee loss. From now till May is past great care should be exercised not to have bees destroyed needlessly, and the best means to accomplish this is to have them well supplied with the necessities of life, and leave the rest to Nature.

#### A DEPARTURE.

To those who have the good of the cottager at heart will, I am sure, be pleased to learn there is now a movement amongst some bee-keepers to throw off from amongst them the conventional practices of modern times, and act in future more upon their own responsibility and common sense bee-keeping, and to constitute their societies on a basis that will benefit the members. Of course it is too early to say as yet the measures that will be adopted, but we can with some degree of confidence say that the system will be one dealing direct with manufacturers for appliances, and with the public direct with the produce of the bees. To secure this members will use every means to have all honey jarred without coming into contact in any way with the hands, and to be of good quality only. I have been already asked by several Scotch societies to give some advice in the matter and bee-keeping generally, but have not yet consented. I have also proof that a feeling of a similar nature exists in some parts of England, and have read that some Irish bee-keepers are strongly averse to what has been aptly termed autocratic bee societies. I have long pointed out the evils and irregularities that exist in our present-day guilds, but trust that bee-keepers will now join in the cry of self-reliance and self-help, and revolutionise the management of bees.

#### SUPERING.

For a long time many of our unfledged bee-keepers who knew but little of bees or bee-keeping advocated hives that gave much super space as a means of securing the greatest quantity of honey in the most desirable form in supers. This teaching, however, was erroneous and on a par with many more of such teachings, having the opposite effect. There are many hives with supers I see offered for sale having the fault of supers projecting from the line of the cluster of bees in the hive. Broad hives have this fault, because the bees are sometimes compelled to contract themselves much within the line of the outer edge of the supers, while narrow hives have their supers projecting the cluster.

Bee-keepers who are desirous of having well-filled and finished

supers of purity should during the winter, if they are in possession of these faulty hives, put them right. Hives should never be wider than what the bees will during summer always crowd the outer sides of the combs, and the supers a little less in diameter, and to have them protected with wrappings in addition to the super protection, admitting the bees to the supers only from the outer spaces. If the frames are of the standard type close up all the centre openings with thin spale board, obviating the colouring of supers and the use of excluder zinc.

#### CONSUMPTION OF STORES.

So far as the season has gone bee-keepers are puzzled as to whether the peculiarly wet and changeable weather has caused the bees to consume or economise their stores. Bee-keepers who had their stocks supplied in September with 20 lbs. and upwards of food need not be alarmed for the safety of the bees as yet. I will neither examine nor advise anyone to examine their stocks until they have had a thorough airing, which, as a rule, takes place during January. I have seldom known that month to pass without a good bee-airing day, and sometimes several. After, but not before, these airings is the proper time to make an examination; but it is better, if there is any doubt, not to uncover the bees at all, but rather supply several pounds of syrup from below until the season is further advanced. Remember, that any top feeding with candy or syrup lowers the temperature of the hive greatly, and it should therefore be left undisturbed.

Bees that have a scarcity of stores during winter are frequently upon the wing, when well supplied hives remain at rest within. Except for experimental purposes I will not uncover any of my hives until the time for supering.—A LANARKSHIRE BEE-KEEPER.

#### TRADE CATALOGUES RECEIVED.

- E. P. Dixon & Sons, Hull.—*Catalogue of Garden Seeds*.  
 E. H. Krelage & Son, Haarlem, Holland.—*Catalogue of Pæonies*.  
 H. & F. Sharpe, Wisbech, Cambridgeshire.—*List of Seed Potatoes*.  
 Dicksons, Chester.—*Catalogue of Vegetable and Flower Seeds, 1892*.  
 A. C. Russell, Tranchiennes, Ghent.—*Catalogue of Chrysanthemums, 1892*.  
 James Veitch & Sons, King's Road, Chelsea.—*Catalogue of Seeds, 1892*.  
 B. S. Williams & Son, Upper Holloway.—*Catalogue of Flower and Vegetable Seeds*.  
 Robert Veitch & Son, New North Road, Exeter.—*Catalogue of Alpine and Perennial Plants*.  
 Webb & Sons, Wordsley, Stourbridge.—*Spring Catalogue, 1892 (illustrated with coloured plates)*.



\*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

*Cypripedium (G. Clements)*.—There was no flower enclosed in your letter, nor have we received one in a parcel.

*Floral Committee (G. M.)*.—Write to Mr. A. F. Barron, R.H.S. Gardens, Chiswick, London, W., stating your desire, and he will give you all requisite instructions in the matter.



**Hyacinths (R. J. B.).**—The bulbs that are "raised out of the pots" have not been properly potted. The soil on which they rest has been much too firm, and instead of the mass of roots entering it freely, it has by its resistance caused the displacement complained of. If the roots are not more than an inch or two long, which is probably the case, the bulbs should be at once potted afresh, and if the work is done with great care the Hyacinths will flourish. As much of the soil must be taken from the pots as will enable you to hold each bulb in the left hand in the centre of the pot, the roots hanging so that they do not touch the bottom; then with the right place in the soil carefully, not pressing it about the roots, which are very tender, but giving instead a few smart raps of the pot on a firm bench, still holding the bulb with the hand. When the pots are filled with soil it may be pressed down round the sides, but the bulbs must not be pressed down, nor the roots crushed.



FIG. 99.—LANKESTERIA BARTERI.

Water them immediately through a fine rose, and cover with cocoa-nut fibre refuse for about three weeks, by which time they will be well established. When the bulbs are partially upheaved and not rectified the plants are never satisfactory, as the spikes grow in a slanting direction and are with difficulty staked upright to show them to advantage.

**Potash for Plants (M. B.).**—The correspondent to whom you refer gave the following information on the subject:—"Potash salts may be had under the name of sulphate of potash, muriate of potash, kainit, and nitrate of potash from most seedsmen and all dealers in artificial manures. Kainit, or crude potash salts, is cheapest, but it only contains about 25 per cent. of sulphate of potash (equal to 13 of pure potash); but it also contains large quantities of other salts which have been found hurtful to vegetation when more than 5 or 6 cwt. is applied per acre, and sometimes even that quantity has done mischief. Sulphate of potash contains about 60 per cent. (equal to 34 of potash), and is, though in proportion dearer, altogether preferable. Muriate of potash contains

81 per cent. of chloride of potash (equal to 50 of pure potash), and is so much more valuable. Sulphate of potash is most commonly used. The nitrate (saltpetre) we have found useful on a small scale—i.e., for pot plants when evil smells would not be tolerated. Our source of potash is the cowhouse. Cow urine contains about 40 lbs. per ton, and much other valuable matter; that of the horse contains about 54. Like you, we are inclined to think that the proper use of potash has not yet been fully ascertained; with nitrogen it is wonderful how long a vigorous growth may be sustained with it."

**Disqualifying at Shows (J. D.).**—Your letter arrived too late for our last issue, and to insert it now would be not only "old news," but the incident is only of local importance. The exhibitor it appears was awarded the prizes on the merits of the productions, but disqualified by the infringement of some rules. He will, perhaps, remember this another year.

**Justicia flavicomma (G.).**—Yes, this plant is valuable for conservatory decoration, as the flowers last a long time in beauty. When the first flowers fade return the plants to a heated structure where they will flower a second time from the same truss. In fact, they will flower three times in succession.

**Lankesteria (R. B.).**—Yes, there is a small genus of the family Acanthaceae, and as far as we are aware there is only one species in cultivation—namely, *L. Barteri*, which no doubt is the one you have. The plant is a native of West Tropical Africa, and requires strong heat, with a moist atmosphere. The compost should consist of loam and leaf soil in equal parts, with a little sand. The plant is of bold habit, with large opposite, oblong, lanceolate, dark green leaves, and the rich yellow and orange-scented flowers are produced in large terminal or axillary spikes. The general character is shown in fig. 99.

**Vines Infested with Mealy Bug (Constant Reader).**—If the Vines have any leaves they may be removed and burnt, then syringe the Vines with a petroleum mixture, a third gill or wineglassful of petroleum to four gallons of water, in which 8 ozs. of softsoap and 4 ozs. of washing soda have been dissolved whilst hot, and keep thoroughly mixed whilst being applied. Allow it to dry, and then repeat the application, wetting the Vines thoroughly in every part, and all the woodwork of the house. Let this also dry, and repeat once more. Then the Vines may be pruned, the woodwork washed, the glass cleaned, the walls limewashed, and the Vines, stripped of their loose bark, may be washed with the same mixture as advised for syringing them, reaching well into every angle, crack, hole, or crevice, using a brush, and taking care not to injure the buds. It is best applied whilst warm, 90° to 120°. If there are any plants they must be removed, and the surface soil must be scraped off and fresh supplied in its place.

**Tuberoses (Merchant).**—Thousands of plants are grown to supply flowers for market by placing one medium-sized bulb in a 5-inch pot and three in 6 or 7-inch pots. Very large bulbs are sometimes placed singly in 6-inch pots. The upper part of the bulbs are above the soil, which is similar to that in which Hyacinths are grown. They are usually buried in cocoa-nut fibre refuse under the stage of a warm greenhouse, where no drip falls from the plants. In that way the soil is kept moist without watering, and roots form freely. When top growth is visible light is essential, a shelf in a warm house being suitable. Many plants are grown on shelves and stages from the first, but great care is needed in watering. When flowers are wanted early the plants are grown in stoves or hothouses, and in this case it is advantageous if the pots can be plunged in a hotbed. Not knowing your cultural conveniences we are unable to indicate the best method to pursue in your particular case. Your postcard was overlooked last week, but the bulbs will not have suffered in the least if they are not yet potted.

**Senecio pulcher (S. T. V.).**—This is a vigorous-growing perennial, with large fleshy or almost leathery leaves of a deep green colour and shining; the radical or root leaves are variously dentated and lobed, while those on the stem are ragged and irregularly cut. The flower stems are from 2 to 3 feet high, very stout, freely branching at the top, and supporting numerous flowers with the rays of a brilliant purplish crimson colour, and the disc or centre golden yellow, measuring 3 inches or more in diameter, and lasting a considerable time in beauty. It flowers during the late autumn months, when it is of special interest and very welcome; and when well cultivated it is a most attractive plant. It may readily be cultivated in ordinary borders, but especially does it thrive in rich loamy soil in a damp situation, as it enjoys plenty of moisture during the summer months. As regards the pot culture of this plant, there is no difficulty in securing good flowering plants by that treatment in, say, 5 or 6-inch pots, using as soil good yellow loam, leaf soil, and well-decayed cow manure, with some wood ashes and sand, or in lieu of the ashes fine nodules of charcoal; the latter is of decided advantage in growing the plant. Perfect drainage is also essential, and an abundance of moisture during the growing season; and it would be advisable to plunge the pots in some material such as spent hops or ashes, which would greatly assist to keep the roots cool and moist.





### A NEW YEAR'S GREETING.

"WHY if here isn't that old fogey again," will be the New Year's greeting which I shall probably receive from many readers of the Journal when they open this week's number. "Couldn't the Editor find out some younger and fresher hand?" And I am not quite sure but they are right. However, they have committed to me the honourable task of greeting a wide circle of readers, and I must only do my best; and there is one advantage at any rate which an old 'un possesses, that of experience. Yes, these whipper-snappers of youngsters who would set the world all right have to learn that all the game is not with them, and (that is as it should be) they have something besides scanty locks and grizzly beards, which may tend in some degree to balance the account.

And yet, perhaps, I am not altogether an old fogey. I do not indulge in one of the peculiarities of that class—sing the praises of the past at the expense of the present. I do not recognise myself as one of the two old men pictured in *Punch* sitting over the fire and explaining that the coals do not give out so much heat as they used to do when they were young. I can recognise the immense strides that have been made in horticulture within my memory. I remember Chiswick in its golden days, and I say that the shows of those days were not to be compared with those of the present. There were huge stove and greenhouse plants and Heaths, but there were no Orchids. What would some of the exhibitors of those days have said if such a batch had been exhibited in their days? and not only Orchids, during the sixty years which have elapsed since the days when I first was affected by the mania; the whole world has been ransacked, regions then only vaguely known, some not known at all, have been explored and yielded up their treasures, and every department of horticulture has been enriched by the indefatigable labours of collectors and botanists of every nation. Let anyone go into their garden or greenhouse, I care not at which department he looks, and ask himself how either would look now if deprived of the plants which the last sixty years have produced. Flowers now occupy a prominent place in our gardens and at our exhibitions which were absolutely unknown then, in fact did not exist. The effective classes of Tuberous Begonias were absolutely unknown—and what shall be said of Chrysanthemums, especially the Japanese section? why it is simply a marvel, even to those who have witnessed many marvels in horticulture. Thus I free myself of one of those charges brought against "old fogies," and there is another of which I most sincerely hope I cannot lay to my charge—loquacity. I do not think I am long-winded, although, perhaps these New Year's greetings run into greater lengths than any other of my contributions, but then I have to talk at it for a whole year, and a poor fellow may be allowed a little longer tether on such occasions.

In looking back on the horticulture of a year one instinctively turns to the Royal Horticultural Society and its doings as holding the foremost, but not the only, place in the minds of British gardeners. It has done a good year of successful work, it has acquired more than ever the confidence of horticulturists, it has had its practical and useful conferences, it has held a magnificent and, what is very unusual, a financially successful Exhibition at the Temple, and yet, withal, the great prospect of a Horticultural Hall

hangs fire. Why it should be so it is difficult to say. The times may have been bad, but other projects have been successfully carried out, but this makes little progress, and in the meantime the beautiful exhibits contributed by London nurserymen and a few amateurs have been held as heretofore in that dreary home—the Drill Hall. There is still a feeling amongst some members of the Society, which is, I think, to be deplored—I mean the jealousy of any other effort but that which is made by them; as an example of which one may adduce the cold shoulder which they were inclined to give to the prospect of holding a great international fruit show next year. It is rather a "dog in the manger" notion, for the R.H.S. could not do it, and it is well to recollect that the great Exhibition of 1866 was also a private venture. The Royal Botanic Society has also had some fine exhibitions this year, and is doing good and useful work, although cramped by some absurd regulations, which savour rather much of oligarchism than suits these democratic times, of which the most notable is that you cannot have the honour of attending some of the exhibitions even by payment unless you have your ticket signed by a member. Can anything be more snobbish than this? It may be palatable to the would-be aristocracy of the Regent's Park and its neighbourhood, but cannot be justified on any grounds of common sense or the fitness of things.

The foremost place in the interest of horticulture has been taken during the past year by fruit growing. It falls in with the utilitarian spirit of the age, and the subject has been invested by a glory of its own, and hence conferences, papers, lectures, have been showered down upon us in all parts of the country, while exhibitions such as that held at Manchester have added a fresh stimulus to the subject. All this is calculated to advance the proper consideration of the subject, for wild theories, unsupported by any facts, have been put forward as if fruit growing was to be the salvation of the farmers, and some cases brought forward gave encouragement to them. There is within a few hundred yards of my house a plantation of Black Currants of a little more than an acre which yielded its owner this season £120, while the amount that has come into this county through Strawberry culture is somewhat astounding. Yet there is need of caution. Of bush fruit it does not seem there can be too much, and even when the crop is abundant everywhere, yields a good return; while in seasons when it is bad among one grower here and there, the fortunate owners in such a state of things are enabled to obtain large profits. The case of orchards is different. Pears, Apples, Plums, and Cherries are so much more affected by our capricious climate that it would do not to depend on them, as some enthusiasts advise us to do. But while it may be risky to go in for large plantations, although Lord Sudeley has found it profitable, yet every farm on which there is suitable soil should have an orchard, and be careful as to the sorts which it grows. By far the majority of our orchards are filled with old worn-out trees of inferior sorts, mostly non-keeping varieties. These produce a glut in October, and then after that we are dependant on foreign supplies for our markets. Of course it will take time to alter all this, but I think 1891 has seen a very considerable onward movement in this direction. Old orchards are being renovated in some cases by grafting good sorts on the old trees, but more frequently by replanting them afresh with young trees of good kinds. In such cases where the orchard is used as a subsidiary to the general crop of the farm, and is not made the mainstay of the farm, it cannot but be profitable. The great International Fruit Show, which is to be held in 1892 under the auspices of the Fruiterers' Company, and which has received the patronage of Her Majesty, will doubtless add much to the interest of what we can only hope will be a most successful exhibition.

In flowers Orchids, Roses, and Chrysanthemums still hold the fort, representing, I think, the three classes of horticulturists. The first being the flower of the married man, not so much of the



aristocrat, as of the man who has made or is making his fortune, who delights to have that hobby, and sometimes rides it in an intelligent and appreciative spirit, and sometimes only regards his fine collection as he would do Dresden China or bric-à-brac; while many who have the finest collections in the country take an intelligent interest in them. The Rose is emphatically the amateur's, and especially the lady amateur's, flower; it has been, as I have already indicated in my review of the Rose year, a bad season for it, but the love for it and the consequent interest in it does not flag. The Chrysanthemum is especially the poor man's flower. A tiny bit of garden, a small greenhouse, anywhere in fact where a flower can be grown, the Chrysanthemum rewards the care of the grower; it is easily propagated and will grow anywhere. That Orchids still hold their sway may be gathered, not less from the grandeur of the exhibitions, such as the Temple Show and the Manchester Great Whitsuntide Exhibition, but also from the constant importations of the plants, and the high prices obtained for them. When we hear of a grower for sale giving £250 for a plant to the fortunate amateur who had obtained it, we may be quite sure that the fever is pretty strong. Cattleyas especially seem to have created a sensation the past year; the finding again of the old *C. labiata*, the many varieties in imported bulbs, and especially the discovery of what is said to be the king of all Cattleyas—*C. Rex*, have set Orchid growers all a-gog. *Cypripediums* still claim a large support, and have lost none of the favour with which they have been regarded for some years. Very few new Roses have come to the front this year, the most prominent being *Marchioness of Dufferin*, raised by Messrs. A. Dickson & Sons of Newtownards in the county of Down, Ireland. It becomes increasingly difficult to raise anything that will exceed in beauty those we already possess. Of Chrysanthemums, on the contrary, there seems to be no end, and the difficulty is what to select. The Japanese varieties have almost shut out the incurved varieties, and except by the exhibitors there are, comparatively speaking, but few of these grown. There are two amongst the new sorts which are two amongst the large number, some thirty or forty, to which awards have been given which are likely to be much in favour—*Robert Owen* and *Vivian Morel*. The former is a large flower, but I am not quite sure whether it is not too heavy a flower. Mrs. *Alpheus Hardy* has proved a most difficult plant to manage, as may be evidenced from the fact that at the Great National Exhibition at the Aquarium there were only three blooms of it staged, and I believe that the best way to manage it is to grow on the old plant.

Other plants have also either retained or increased the favour with which they have been held. *Begonias*, both single and double, seem now to have almost reached their zenith, and now the efforts of hybridisers are directed towards getting them to hold their flowers erect. The Dutch growers, *Ant. Roozen & Co.*, announce erect flowering single and semi-double varieties, while in *Cannell's Rosebud* we have the index of an advance in the direction of the double erect flowering varieties. Carnations, and especially the border varieties, have advanced greatly in public estimation, and are now sought for in all directions. The florist varieties are not, as a rule, suitable for garden decoration; their beauty depends so much on delicacy of colour and refinement that all this is lost in the bolder features of garden decorations, while these self coloured ones which the florist rejects are now especial favourites. Messrs. *Harkness's Ketton Rose*, *Veitch's Queen of Carnations*, and others from various sources have shown an advance in size and form of petal which will make them desirable additions. The taste for herbaceous and alpine plants still increases, and although nothing very novel has been brought forward, yet in all directions one sees evidence of the love for plants whose cultivation has so revolutionised English gardening during the last fifteen years, has also exterminated the bedding-out system, and made our gardens so much more enjoyable.

The roll call for 1891 does not show such great and conspicuous

blanks as did that of 1890, but it must ever be in so large a body as that which horticulture claims as its own—there must be blanks as every year rolls round. Roger Cutler was ever in evidence pleading the cause of the Gardeners' Royal Benevolent Institution, and his loss was no ordinary one; ever ready to seize any opportunity for pushing the claims of his "baby," which under his fostering care had grown to be a full-sized power, and his loss will be widely felt. In John Dominy we have lost one of our most successful hybridisers, whom the Orchid grower will remember with gratitude for the good things he has added to their favourite flower. Everyone who has ever attended a Dahlia show in or near the metropolis has known Henry Glasscock of Bishop's Stortford, the leading man amongst the amateur growers and exhibitors of the flower. Fruit growers regret the death of Haycock, who had under his care the most perfect fruit garden in the kingdom, and whose fruit, for size, and especially for colour, were unsurpassed. In Frank Miles, artist and gardener, and in the Rev. A. Rawson we have lost two ardent lovers of herbaceous plants and bulbs; the former, indeed, has been lost to us for some years owing to mental disease. Jean Sisley, a name well known amongst Rose growers, and English in his descent though he lived at Lyons, has passed away at the advanced age of eighty-seven, and was until the last few months vigorous and bright. And so time rolls on, bringing with it its ever-recurring changes, and familiar faces and voices are no longer with us; and the world gets on without them, as it will, my friends, without us when we too pass away.

And now we are looking forward for another year, and I think that we may do so with no pessimistic views. Never was the craft we love in such wide favour as it is now; never so many gardens and hearty gardeners as at the present day; and although we miss some who have been our guides in the past, yet some remain, and younger men are coming forward. To all, then, whether old or young, let me send a brotherly greeting; and may I not, in the name of all the readers of the Journal, salute our venerated chief, express our thankfulness that he is still able to pilot the ship, and our hope that his matured wisdom may be long spared to us? I might have called him our venerable chief, but then I should have to apply that term to myself, for we were born in the same month and the same year. For thirty years I have been permitted to labour with him, and I can cheerfully recognise in him the genial friend and adviser. May his shadow never be less. And now my fellow labourers, especially ye younger ones, remember that there is demand for your energies, and the world will be glad to hear what you are doing. There are now eight weekly journals devoted to gardening, and it requires something to keep up that supply; but give of your best. Don't think that there is nothing to write about, don't hold back because other people have written upon it, for the treatment even of an old subject by a fresh hand is always acceptable. Keep up the credit of our Journal, remembering that you have an intelligent and cultured class of readers.

We have not had a cheering year for gardening, and so we may well hope for a better one. Our gardens have not shown their usual beauty. A long and bitter cold winter, a cheerless summer, and wet autumn, are not promising factors for gardeners, such as we have had in 1891, and, like Mark Tapley, we have tried to be jolly under them. Let us hope that different seasons await us in 1892. "Hope springs eternal in the human breast," and so we hope on. I may not be your chaplain in 1893, but at any rate let me seize the present and wish each and all of you a bright and successful year. Troubles, horticultural troubles, we must have, but in whatever form they come, American blight, phylloxera, woolly aphis, slugs, snails, mildew, orange fungus, green fly, take heart of grace and let me end my homily with the old time-honoured salutation,

PAX VOBISCUM.

—D., Deal.



## RHODODENDRON CHAMPIONÆ.

MESSRS. JAMES VEITCH & SONS, Chelsea, have been the means of bringing many beautiful Rhododendrons into public notice, especially amongst the hybrids of the so-called "greenhouse" section, but others have from time to time been introduced, occasionally novelties, and sometimes old, neglected, or little known species that are equally as welcome as the others. We have an example of a species which has thus been recovered, as it were, in *Rhododendron Championæ*, for which Messrs. Veitch obtained a botanical certificate at the meeting of the Royal Horticultural Society on April 21st, 1891. A drawing was prepared from the specimen shown on that date, and this is now

Captain Champion considered it allied to *R. formosum*, Wall., from Khaysa, and so it is in some respects, but abundantly distinct in the form and vestiture of the leaves, in its large glutinous bracts, in the form of the calyx, in the ovary and fruit, and especially in the copious, long, glandular bristles of the branchlets, petioles, peduncles, calyx, and fruit. It was found by Captain and Mrs. Champion, growing abundantly among rocks in a ravine at Fort Victoria, Hong Kong, April 28th, 1849."

The description then given may be condensed as follows, but at the time no plants were in cultivation in this country.

"A shrub nearly 7 feet high; branches terete; younger ones clothed with long, spreading, glandular bristles. Leaves much confined to the apex of the branches, shortly petioled, lanceolate,



FIG. 100.—RHODODENDRON CHAMPIONÆ.

reproduced in the woodcut (fig. 100). When describing this Rhododendron in 1851 Sir W. J. Hooker wrote as follows:—

"We know from experience that there is no surer way of having a new and beautiful plant introduced to our gardens than by publishing a figure and giving its locality. Hence we are induced, as upon some former occasions in this work, to exhibit a species not yet in cultivation, but for the accuracy of the figure of which we can vouch, by a comparison of the drawing of a Chinese artist with native specimens; both the one and the other being also accompanied by notes drawn up on the spot and sent us by Captain Champion of the 95th Regiment, who made extensive collections of plants in Ceylon, and afterwards in Hong Kong. In compliment to his amiable and accomplished lady, whose partiality for plants equals that of her husband, and who accompanied him on many of his botanising excursions, we have named the species,

shortly acuminate, reticulated, dark green above, rather rusty-coloured beneath, the margin and veins and veinlets clothed beneath and rough with short, harsh, bristly hairs. Umbels four to six-flowered. Peduncles hispid with glandular hairs. Calyx, especially the margins, equally hispid, deeply cleft to the base into four erect, almost linear-subulate, rather long segments or sepals. Corolla 4 inches across, tube rather short, campanulate, white. Limb 4 inches across, deeply cut into five obovate-oblong, obtuse, unequal-veined segments, the upper one the broadest. The ground colour in our figure is white; the lobes, especially the apex and margins, are tinged with delicate rose colour. But there is another state of the flower described by Captain Champion as the more usual colour, 'delicate white, the upper lip pale yellow towards the centre, and copiously dotted with ochre.'

The variety exhibited by Messrs. Veitch was that just mentioned



—namely, the flowers had long white petals, the upper spotted with yellow. It is probably variable, and seedlings might yield several distinct forms.

### BARREN WALL TREES

It is certainly convenient to blame the weather when our wall trees fail to produce good crops of fruit; but if this takes place several years in succession we must look for other causes, and often take extreme measures to restore the trees to a healthy fruitful condition.

Barrenness is usually due in old trees to a crowded condition of their spurs, and even when the trees do not wholly fail to fruit they yield produce that is worthless, being small, hard, and flavourless. Trees are brought into this state through a rough and careless system of pruning, which adds annually to the evil until failure is the result. This occasionally arises from thoughtlessness on the part of those to whom the work is entrusted, and not unfrequently is due to a total ignorance of the requirements necessary to the formation of healthy fruit spurs. Light and air are essential for building up and perfecting the buds that are to produce the following year's crop of fruit. They are robbed of these conditions when the trees are crowded; in fact, the whole mass of weak spurs which the trees possess are hidden from light, being entirely shaded by leaves. This is not the only evil that results from a crowded condition of the spurs. The energy of the tree is devoted to the development of perhaps a hundred more spurs than are needed, while the leaves by shading one another are prevented carrying out their proper functions. If trees then are to be fruitful year after year the spurs must be so disposed that light and air can reach them, and the leaves have room to develop without crowding.

Trees that are crowded may in a season or two be rendered fertile by freely and judiciously thinning their spurs at once. Small spurs near the main branches may be too weak to fruit next year, but they will develop into bold spurs for the following season. One precaution is necessary, and that is preventing young wood that is certain to form freely from the sawed off spurs, from crowding the tree, and then smothering the small fruit spurs that have been left. The shoots that start away from the remains of the old spurs should not be left until they become woody and then be pinched; but directly they are observed to be growths, and not fruiting spurs, they can be thinned, and only sufficient left to furnish the tree for forming new spurs, and sustaining it in health and vigour.

But barrenness is due to other causes which skilful management in pruning during summer and winter will not remedy. Old trees that have occupied positions against walls, and for years have been left to their own resources, have long since deprived the soil of its fertility, and have not only become barren, but gradually declined in health and vigour. Generally, the borders near walls are cropped with vegetables, and any roots the trees might form in them are annually cut away, and thus the roots are driven into the subsoil. If we suppose a border 5 feet wide near the wall is devoted to the trees, and the soil is of a stiff or clayey nature, the trees, if left to themselves, are certain to fail, as can be seen in too many gardens. Trees on a north wall, as a rule, are more likely to suffer than those in any other position; and if we glance at a wall of these trees, and consider the treatment they receive, we need not wonder that they have both failed to fruit and grow. They have probably been summer and winter pruned, and occasionally had an application of manure to the surface of the border. This may be considered ample, and by no means bad fare for fruit trees. It certainly sounds very well, but fails to bear close examination. The treading during the operation of pruning consolidates soil that is adhesive until water will not pass freely through it, and the manure is like adding fuel to the fire. Where water will not pass away freely the air cannot penetrate—a condition that is alone sufficient to account for barrenness and debility. Soils in this condition soon become sour, and are too cold for the well-being of trees. The heat of summer fails to dry and warm borders of this nature. The heat which should penetrate the soil is spent in evaporating the water from the surface, most of which should have passed away in the opposite direction. When covered with manure evaporation is arrested, and the soil thus remains in a similar condition throughout the year.

To restore trees in this deplorable state to health and fruitfulness requires thoughtful consideration before commencing. There is nothing to lose, and the results of renovation in two or three years may be a decided gain. The age and health of the trees must be considered, for in some cases it might be wise to pull out the old trees, clean the wall, and work the soil thoroughly for a season to restore it to a state of sweetness and fertility. When

these measures are taken, if the soil is not properly drained that should be done. This, however, is necessary in any case. The border must be trenched and the subsoil well broken up. The quantity brought to the surface in trenching must depend upon its nature, but several inches may be brought up, and if well worked and left a whole season to the disintegrating influences of the atmosphere, and then thoroughly mixed with what was the surface soil, a considerable quantity of dormant plant-food will be rendered active, ready for the young plants the following season. Fresh loam, if obtainable, manure in small quantities, or other fertilising ingredients, may also be added for the benefit of the trees to give them a good start. When the soil is in the unsatisfactory state that has been described it is unwise to dig holes in which to plant young trees. Trees seldom do well in such holes however good the soil may be, for they prove to be mere pits into which the water from the surrounding ground drains, the new or newly worked soil acting like a sponge.

If the old trees are not too far gone their renovation may prove the most profitable. In the first place the whole of their spurs should be sawn close back and their branches well scrubbed, for frequently trees in a saturated soil are covered with minute forms of vegetation. The surface soil of the border may be picked up as deeply as possible without cutting off the few fibrous roots the trees may possess. Very few will be found near the surface. Leave the soil in a rough state, so that the weather will act upon it and water evaporate freely. It is surprising what an improvement will be effected even in one season by this simple means. Trees that are cut hard back will start a good percentage of strong growths. Disbudding will be necessary and only sufficient left to furnish the tree; these should be secured to the main branches so that they are clothed from the main stem to the end of the branches with young growing shoots. After disbudding or tying any treading on the border must be remedied by forking it again to encourage evaporation throughout the season.

This refers principally, as far as training the young wood is concerned, to Apples and Pears. Plums require slightly different treatment. Young shoots should be laid in where necessary, and others pinched about 4 inches in length. Plums, as a rule, break freely from the old wood, and we have, after cutting back the spurs, furnished trees in a season, with good bearing wood close at home.

Whether Plums, Apples, or Pears are under treatment while the leaves are fresh upon the trees in early autumn, a trench should be cut 3 or 4 feet or more from the stem, according to the size of the trees, and all roots beyond cut off. The cut must be clean, and performed with a sharp knife, about half the remaining soil between the trench and the stem being worked carefully from amongst the roots, preserving every fibre that can be found. The remaining surface soil must be removed down to the roots. The roots that have been bared must be laid into a compost of fertile soil. Refuse from the potting shed and fibry loam in equal proportions will give them a good start. Wood ashes may be added, and a few half-inch bones with the fine portions amongst them. In the case of Plums lime rubbish or a little lime will prove beneficial.

All the pruning that will be necessary after the leaves fall will be the shortening back of shoots and the removal of unripe ends. The following season fruit spurs will be formed almost the entire length of the young wood, tied to the old branches if the shoots made attained anything like strength, and the roots start fairly well in the new compost.

The spaces between the trench cut round the trees should be treated in the way advised if young trees are planted. This will prevent the trees from receiving more than their share of the autumn and winter rains.—WM. BARDNEY.

### TABLE PLANTS.

As a general rule plants for the decoration of tables may be selected from a collection of all kinds, but the most suitable are those which are neat and graceful in growth, light and effective in general appearance, not too large in size, nor growing in too large pots, and which will endure without injury the atmosphere of the rooms in which they are placed for a brief and reasonable time at least. The range of plants which a gardener with plenty of convenience at his command can draw upon for furnishing tables is considerable, and when the duty of decorating tables with plants is confined to making temporary and occasional displays for the brief period of a dinner party, many comparatively tender plants, including numerous flowering plants, may be employed. Such plants need a little preparation before taking them into a warm room, such as ascertaining that they are moderately moist at the roots,



and if growing in a high temperature a few hours' sojourn in a cooler one will tend to strengthen them and their flowers, and they will be less likely to suffer injury from the drying effects of heat and gas. Some plants, however, with the best preparation soon suffer from the lack of moisture in the atmosphere, and it is only when the foliage becomes thoroughly matured that they are able to resist for a time such unfavourable influences. Stove plants, including Ferns, foliage plants, and flowering plants, are the kinds which require some preparatory attention before using them for table decoration, especially at night.

Few plants for table decoration should be grown in larger pots than 6 inches in diameter. Large pots are very objectionable on dinner tables. For side tables or drawing-room tables, one or two plants of larger size and in larger pots are admissible, and often produce good effects; but the pots should, if possible, be hidden from view in some suitable and ornamental receptacle.

Stove and greenhouse plants, hardy British and exotic Ferns, furnish a great variety of suitable plants adapted for table decoration, and in the following notes I will endeavour to point out some of the most popular plants from among them that are most generally used.

#### CROTONS.

Beginning with Crotons, those beautiful stove plants, which take a prominent place for table decoration with those who have the means for growing them. Crotons generally look well under gaslight growing in the smallest possible pots according to the size of the plants, and well furnished with healthy foliage from the base upwards. They should when small be used as single-stemmed plants, for then each plant displays the individual leaves in a natural manner, and the appearance of crushing and crowding, always to be condemned in table decoration, is avoided. There are numerous varieties of Crotons, nearly all good, and brightly and distinctly coloured. A few of the best are Lord Wolseley, aigburthensis, Warreni, Newmanni, angustifolius, and majesticus.

Crotons are real stove plants; they enjoy the humid atmosphere, the strong heat, and revel in plenty of light and sufficient moisture at the roots. These conditions given them they grow freely, and it will be an easy matter to keep up a stock of healthy young plants, which may always be drawn upon for furnishing tables. Good loam, peat, and sand make an excellent compost for these plants. They should be potted firmly; an average temperature of 66° to 70° will grow them well, but they positively enjoy higher temperatures when the atmosphere is correspondingly moist, and the roots never suffer.

#### ARALIAS.

Aralias are elegant and graceful table plants. The stove Aralias have beautifully divided and finely cut leaves, requiring similar treatment to the Crotons. Four and five-inch pots are the most suitable sizes to grow both Aralias and Crotons in for tables. *Aralia Reginae* and *A. Veitchi* are two of the best. *Aralia Sieboldi*, a greenhouse plant, is more common and more hardy than the preceding one, and it is on that account more popular. It is more robust also in appearance, and possesses larger and less finely divided leaves. When small, and the foliage is bright, clean, and uninjured, it makes a very good table plant, being better adapted for occupying positions on tables for a longer period than the majority of plants. The main feature in their management is the supply of water to the roots and keeping the leaves clean. Neglect of these precautions soon causes the leaves to become limp and spoils the appearance of the plants. There is a variegated form of this *Aralia* resembling in every respect except in the colour of the leaves to the ordinary variety. It is, however, much scarcer and dearer than the plain-leaved form, and has to be imported from the Continent.

The ordinary form is easily raised from seed sown in a little heat in spring, and large plants may have their heads rooted in summer by notching the stems below healthy leaves, splitting a 4-inch pot in two and fixing it round the notched stem with copper wire and filling up with turfy material having plenty of sand in it, keeping all moist and daily syringed until the top is rooted and the young roots begin to protrude both top and bottom of the pot, when it is time to gradually sever the stem immediately below the base of the pot. *A. leptophylla* is also invaluable for tables.

#### DRACÆNAS.

Dracænas make excellent table plants. There are both stove and greenhouse varieties, the former have generally deep and richly coloured leaves. Splendid plants may be grown in 5 and 6-inch pots quite large enough for tables, indeed smaller plants in less pots are often wanted. It is a good plan to prick out on the surface of the soil at the last potting, or at any previous shift they may receive, small pieces of *Selaginella Kraussiana*, which will

rapidly grow and cover the surface of the soil, also hang down and cover partly the sides of the pot in time. Table plants are vastly improved by treating them in this manner; the natural living greenery on the surface of the soil almost becomes as attractive as the plant it embellishes. The stove Dracænas require peat, loam, and sand, to grow in plenty of water and heat, as well as a light position to make the colours of the leaves intense. The leaves are easily kept clean by sponging occasionally. Good table varieties are *D. terminalis*, *D. gracilis*, and *D. Guilfoylei*.

The greenhouse varieties though having less ornamental leaves yet make very useful and acceptable table plants in similar sized pots to the stove varieties. They are very useful for other purposes besides table decoration. These Dracænas are all green-leaved, some broad, some long and drooping, some erect and horizontal, some with gracefully narrow leaves. The best of them are *D. rubra*, *D. australis*, and *D. Veitchi*.

They are mostly rapid growers and soon become too large to be effective table plants. Happily this can soon be remedied, as they are the easiest plants to shorten, and root afresh from the stems. When it is desired to shorten a tall plant it may be done in a similar way to that recommended for the *Aralia*. Another equally effective way is to tie moss round the notched stem instead of fixing the stem within a pot. Perhaps it may be of interest and use to describe in detail the process of preparing the stem for the emission of roots, the same method being followed whether the rooting is to take place in soil or moss. The part of the stem most suitable for notching is that part among or immediately below the lower leaves. The stem must be cleared of leaves an inch or two above and below where the notching has to be done. First of all, the stem must be cut clean about half way through, making the cut transversely. About half an inch below that cut the knife must be placed and worked slantingly upwards, so that it meets the bottom of the transverse cut, letting at liberty a wedge-shaped portion of the stem. On the opposite side of the stem, but a little below, a similar nick must be made, taking care not to make either of them too deep or some difficulty will be experienced in preventing the head breaking off. Moss should then be tied round with matting, placing over a fair thickness of the moss, and during the operation securing, if necessary, the stem to a stick to prevent the possibility of its breaking off. The moss must be kept thoroughly moist, and the plant should stand in a warm house until rooted. When sufficient roots have been made the stem below the mossed portion must be severed, and the plant is ready for potting, and is at once a well-furnished specimen. Moderately small heads of Dracænas may also be rooted in bottles of water.

#### CYPERUS.

*Cyperus alternifolius* in a young state growing in pots of from 3 to 5 inches diameter makes a very effective table plant. It is a stove plant, but will do in a greenhouse in summer. It requires plenty of water, and should never be taken into a room when the soil approaches dryness. Being a tropical Sedge plant it thrives wonderfully with the pot immersed in water, but plants intended for indoor use are probably best cultivated like other plants in the stove intended for the same purpose. A large plant, however, plunged in the water tank will furnish abundance of young plantlets, which are freely produced on the old heads of foliage. To facilitate the quick rooting and enlarging of the young plantlets the stem containing them may be cut off and allowed to float on the water, into which the roots will strike and fresh strong leaf stems begin to extend upwards. When large enough they may be taken off and planted in small pots or thickly together in pans, affording them plenty of heat and moisture. Plants quite large enough for tables can be grown in 5-inch pots. Any kind of free and open soil will grow them well.

#### CALADIUMS.

Caladiums of many varieties, with their handsomely veined, coloured, and variegated leaves are very select and choice table plants, though only for temporary purposes. Being stove plants they rely upon the heat and moisture of that structure for their vigour and attractiveness, and should not therefore be expected to remain in good condition for any extended period. They are tuberous-rooted plants, and lose their foliage in the autumn, remaining at rest all the winter, and can only be employed for any purpose during the summer time. They are most effective for tables when grown in pots not larger than 6 inches. Some are very strong growers, and produce large leaves; others are of medium size, but all are beautiful. One little Caladium, growing only a few inches high, with short and slender stems, and small leaves distinctly marked with green and white. This is *C. argyrites*, and it makes quite a model little table plant. Abundance of heat



and moisture is essential for Caladiums during the growing season, they also liking good rich soil composed of peat, loam, and sand, with a moderate amount of sweet leaf soil.—S.

(To be continued.)

### THE APPLE SUPPLY.

THE interesting and practical article on page 509, by Mr. Wright, must set all readers studying this great problem of how to supply the English market with own-grown produce. Having recently visited London I made it my business to visit some of the wholesale markets, as well as to scan the fruit shop windows, as also to "taste and try" some of the most showy American Apples, and I must say I felt somewhat ashamed and humiliated at seeing such poor English produce, as compared with the American specimens. But on comparison with such fruit as was shown at the Smithfield Club Show by Messrs. Cheal & Son (I believe I am correct), I could not help thinking that the climate was not so much to blame as the cultivators. I bought a pound of "American Blenheims," which appeared identical to our own Blenheims, and I found there was more in outside show than in inside substance and flavour. I also examined and tried my Cobhams on my return, and felt convinced there was no comparison in my mind as to our fruit holding its own in quality, if not quite so tempting in appearance.

But my object in making a remark on the subject is respecting the neglected orchards. Some years ago I referred in the Journal to a neighbour who used to grow 500 pots of Blenheim Pippin Apples alone besides other fruits in his orchards annually. I think I am quite correct in stating that during the past three seasons those orchards have not produced ten pots of these Apples collectively. Blight—i.e., caterpillars, and psylla, and neglect have reigned supreme, and no amount of advice gratis and information on undoubted authority and firm basis availed, which have been treated—if not with contempt, with indifference. There is undoubtedly a good field for intelligent fruit culture.—J. HAM, *Astwood Bank, Worcestershire.*

### POTATO DISEASE EXPERIMENTS.

SOME time ago reference was made to Mr. Robert Fenn's fight with the fungus that is the active agent in the Potato disease. His instrument of warfare was the Maalbec bellows, and his ammunition powder—the anti-blight preparation of Messrs. Tait and Buchanan as supplied by Messrs. Barr & Son. This powder having proved so effective in preventing mildew in vineyards in Portugal, it was thought it might be applied with advantage to Potatoes for preventing the disease. Mr. Fenn gave it a thorough trial, and has sent us a record of the results. We have not the slightest doubt of the accuracy of his statement, but as tabulated it would occupy much more space than we have at disposal, and a digest will equally well show that he mastered the enemy which has attacked his crops with more or less energy over a period of forty-six years.

The whole of some of his new varieties, with others of specially high quality and prone to disease, were dressed, and of these, such as Rector of Woodstock, Woodstock Kidney, Eliza Fenn, Sir Charles Douglas, Sutton's Favourite, and Fifty-fold, the plants remained fresh and green to the end of the season, and afforded good crops of sound tubers. In 110½ lbs. of Fifty-fold there was not one diseased tuber. In Rector of Woodstock, 73 lbs. were sound and 3 lbs. tainted; Sir Charles Douglas, 111 lbs. sound, 6¼ lbs. tainted. This variety is not in commerce. For some time the late Sir Charles Douglas lived largely on Potatoes, and after trying many varieties, including Mr. Fenn's seedlings, he preferred this; therefore the raiser, instead of placing the variety in commerce, preferred, as he said, "to keep Sir Charles alive as long as possible," and that is the reason of its name.

Of some varieties portions of rows only were dressed, the other portions left to their fate. The lengths of the rows experimented with, and the results are indicated with precision in the following digest:—

RINGLEADER: 39 feet of row dressed, 27 feet undressed. *Results:* Weight of tubers in the former, 59½ lbs.; in the latter, 23 lbs. No diseased tubers in the dressed row, 5 lbs. in the other.

EARLY BORDER: 45 feet of row dressed, the same length undressed. *Results:* Weight of tubers in the former, 35¾ lbs.; in the latter, 17½ lbs; 3 lbs. of diseased tubers in the dressed row; 10¾ lbs. in the other.

SIR POLYDOR DE KEYSER: 10½ feet of row dressed early and repeatedly, the same length dressed late, when disease appeared on the

leaves. *Results:* 56½ lbs. of sound tubers in the dressed, and 30½ lbs. in the other.

PRIZETAKER: 34½ feet of row dressed, the same length undressed. *Results:* 57½ lbs. of sound tubers in the former; 21¾ lbs. in the latter.

ELIZA FENN.—A selection from Early Regent: 48 feet of row dressed, the same length undressed. *Results:* Weight of crop in former, 75¼ lbs.; 53½ lbs. in the latter; no diseased tubers in the dressed portion; 3 lbs. in the other.

THE DAMSON (new seedling): 26½ feet of row dressed early and repeatedly, the same length of row dressed late. *Results:* 44 lbs. of sound tubers in the former; 23¼ lbs. in the latter.

It will be seen that early dressings gave the best results, and that the powder is more a preventive than a curative agent. This is only what might be expected, for when the fungus takes possession of the cells and tissues of the plants the parts thus injured or destroyed cannot be made sound again by any applications, though the growth of the fungus may be arrested, as has proved to be the case both with Potatoes and mildew on Vines. Mr. Fenn attaches importance to giving the first dusting before earthing, then "following it up," according to the weather and condition of growth. How many times he ran puffing up and down the rows will perhaps never be known; he only knows he mastered the enemy for the first time in his long Potato-growing experience, when its attacks were persistent as during the present season, and rejoices accordingly.

The increase in yield, resulting from the dressings, is not to be attributed to the manurial effect of the powder, but to the prolonged growth of the plants, in consequence of its agency in preventing the germinal tubes of the fungus spores penetrating the leaves and soft stems.

### FLOWERS FOR CUTTING.

#### THE CHRYSANTHEMUM.

THE time is long past when it is necessary to bestow any praise on Chrysanthemums, and perhaps but little that is new can be written as to the methods of employing them as cut flowers. At one time it was thought expedient to cultivate the Pompon section mainly for cutting purposes, and one of the strongest protests made by the opponents of the "large bloom system" was furnished by the plea that the blooms had no decorative value on account of their size. It is many years since I drew attention to the great value of large flowers for decoration when used with judgment, and it is safe to say that mere size at the present day forms no bar to the employment of the largest Chrysanthemum grown; indeed the tendency seems in the direction of size. While that is so, no doubt there is plenty of room for plants which produce a quantity of fair-sized flowers, which, like the Dahlia, when cultivated for flowers in quantity, are eminently useful for home use. The happy medium appears to be the setting aside on the one hand of the whole family of Pommpons, which are pretty, but otherwise of no value, and, on the other, to select from the great number of Japanese, incurved, and reflexed, which of late years has assumed such enormous proportions, and to cultivate these with the double view to utility and beauty.

It is not uncommon that a free-growing floriferous variety is chosen on account of these qualities alone without taking any account of colour. That is a mistake. The primary feature of a good Chrysanthemum is colour. At any period of the year this forms an essential element in a good flower for cutting, but during the winter it is of pre-eminent importance. Therefore, no matter how many other good points a Chrysanthemum may possess, if it lacks clearness and brightness of colouring, it is so far worthless. The best colours in addition to white flowers are yellow, of which there are many intense shades of great beauty; orange; crimson when clear and bright, and pure pink or rose. Lilac, dull reds, and so-called violet shades are all useless.

With regard to the treatment of plants for the production of flowers for cutting there is not much need be said. At the same time there are some points to which attention may be fittingly called. Not uncommonly Chrysanthemums grown solely for decorative purposes receive scant justice in the way of good culture. In the first place good cuttings should be secured, and that as early in the season as possible. I invariably find that the cuttings secured from now until about the middle of January produce the best plants and the best blooms. It is a good plan to pinch out the points of the young plants as early in the year as it can be done. By doing so a good foundation is laid for a large plant, and I like to treat them well from the very beginning. As a rule they are grown naturally, but this year, after allowing the practice to slip for some years, I cut down a certain number in early summer, and



they have done so well and are so much dwarfer than others left to grow unchecked, that more will be cut over another season. Most of our plants are disbudded, leaving one bud to each shoot, and in some cases weakly side growths, which can be seen to be unequal to the production of good flowers, are also removed.

Chrysanthemum flowers lend themselves with the best effect to all kinds of decorative purposes. Large blooms are excellent for "table work." These, also, when cut with long stems and set up a very few in large vases, are most beautiful. If any lack of furnishing is apparent in the portion which springs immediately above the glass, a few smaller blooms on shorter stems may be added with good effect. For the medium sizes of glasses employed in large apartments ordinary well-grown blooms will be suitable, and nothing is necessary in the way of foliage in any case save that on the stems as cut. Overcrowding, or indeed crowding in any form, is to be avoided.

As to the varieties best suited for the purpose under discussion they need not be many. At the same time it would be unwise to be too exclusive, as in addition to the colour we have now so many beautifully constructed flowers that variety in this respect is valuable. There is also the matter of a lengthened season to consider, for without trenching much on the few varieties suitable for cut flowers which bloom in summer and autumn in the open border there ought to be a good supply in pots from October until the end of January, a period of five months, when flowers are not too plentiful. One year I had flowers all the year round, but they are of doubtful utility at any other than the period just mentioned. Like some other flowers, Chrysanthemums in some seasons bloom quite out of their ordinary course; as, for instance, last year we had Lady Selborne in flower at Christmas, and Mdle. Lacroix even later, but as a rule the various sorts can be relied upon with tolerable exactitude.

The earliest plants should include the Madame Desgrange family and the new A. Crepey. Roi des Précoces has for several years held a prominent position. This should not be disbudded, and requires cutting when first open, as, like so many crimson tinted sorts, it rapidly becomes dull when kept. It is a very useful sort. Souvenir de M. Menier, which appears to be a much improved L'Africaine, is worthy of commendation as an early dark flower. M. Hilliot is exceedingly good, bright chestnut red, and a beautifully formed flower. Madame C. Foucher de Careil is an early Source d'Or, deep orange, and good. Lady Selborne is still indispensable, and must not be disbudded. Where few sorts are grown this should find a place, as it keeps so well. Elsie is also very good. We now arrive at the general blooming period, and among these the following will be found among the best to grow:—Fairy Queen, a beautiful variety; W. Holmes, to be cut as soon as open; Amy Furze, one of the best of the pink shade; Maiden's Blush, La Triomphante, Janira, a fine crimsoned tinted purple; Sœur Melanie, fine when well grown; Reverie; Source d'Or, one of the most beautiful; Phœbus, very good; Mrs. Stevens and W. Stevens, both fine, old gold; Gluck, Alice Bird, Gorgeous, Mrs. Dixon, Mr. G. Glenny, and Lord Alcester are indispensable among yellows. Among the best whites are Mrs. Rundle; Elaine, to be cut before full development; Avalanche, Mdle. Lacroix, Felicity, and Mrs. Forsyth. Reaching to a later period we have E. Molyneux, Guernsey Nugget, Condor, Peter the Great, Fair Maid of Guernsey, Lady Margaret, Miss A. Lowe, George Sands, Ethel, Mrs. Jones, L'Ebourriffée, and Val d'Andorre.

The only single variety grown is Miss Mary Anderson, good, which is a great favourite.—B.

### SCARCITY OF VIOLETS.

I WAS surprised to read in the note from "M. H.," p. 517, that Marie Louise Violets in pits were not flowering so freely as usual, because I thought our plants were giving us more blooms and deeper in colour than usual, although plants in our frame are not doing so. These plants were lifted and planted in a spare frame fully two months after the principal plants were placed in their flowering quarters. Not having a spare frame at the time, and thinking we had sufficient, the plants were allowed to remain where they grew during the summer, not needing the land, hence their retention; but I am glad we did utilise them, because it provides a lesson of how necessary it is to lift and plant early the roots intended to flower during the months of December and January. The middle of September is not too early to protect the plants from excessive rains, which is no trouble after the roots are placed in the pits or frames. I attribute our present success to this fact. The foliage, too, is superior to any we have previously had. I have heard complaints in this neighbourhood about the scarcity of bloom this season, but in one instance especially the plants never

grew well enough to form desirable crowns out of doors. The poor-ness of the land in which they were planted was blamed for this defect; and without fully developed crowns it is useless to expect a full crop of bloom, no matter what the season may be. Because I approve of storing the roots early I do not believe in the practice of "coddling" them to give the plants a free growth; my only object is to so have them under control that heavy continuous rains can be warded off. No matter how cold the weather may be—excepting when freezing—the lights are drawn off our Violet frames early in the morning and left off till dark, and when they are on in the case of rain they are tilted to admit of a free circulation of air about the plants, conditions they enjoy, judging by the appearance of the plants and the blooms they bear.—E. MOLYNEUX.

### CYPRIPEDIUM CALYPSO.

HYBRID Cypripediums now constitute a large and important class of Orchids, and yet fresh and distinct variations are continually forthcoming, a large proportion equalling and some exceeding those previously obtained. The hybrid of which a flower is depicted in fig. 101, is one of Messrs. Veitch & Sons' productions,



FIG. 101.—CYPRIPEDIUM CALYPSO.

and resulted from a cross between *C. Spicerianum* and *C. villosum* var. *Boxalli*, exactly the same species, but different varieties having been employed in the production of *C. Lathamianum*, raised in the Birmingham Botanic Gardens. *C. Spicerianum* has been freely employed by hybridisers, and it has constituted one of the parents of several hybrids. *C. villosum* has also been useful in the same way.

*C. Calypso* shows many characters of both parents. The dorsal sepal has a good deal of the *C. Spicerianum* form and marking, the petals and lip being more suggestive of *C. villosum*. White and a yellowish tint with dark lines and dots furnish the chief colouring.

### PRUNING VINES.

I REGRET that the experience of "E. M." differs from my own in regard to the pruning Muscat of Alexandria, because I know him to be a first-rate Grape grower, having had many opportunities of seeing the fine produce he staged a few years ago at some of the leading southern shows, and having also seen the Vines, vineries, and the delightful gardens he has managed so well for the last twelve years. Although the close-spur system has succeeded in the case of "E. M.," I am fully convinced it is not the best method to adopt with Muscats generally, as I have on many occasions seen the benefit derived by Muscats when the close-spur method of



pruning has been relinquished in favour of the system I advocate. Notwithstanding the fact that my critic was this year successful in securing finer bunches than usual, if he will try one Vine on the long spur system, I shall be much surprised if he does not produce still larger examples next season. The fact of his having made an advance in that direction without changing his pruning tactics, seems to suggest he has been giving them extra attention. Possibly his borders may have been renovated a season or two ago, and the Vines are now reaping the benefit of that necessary attention. From the time the Vines were planted up to the present time, I fancy there must have been great fluctuations in the size of the bunches and their quality; times when the Vines showed want of vigour, and by a little assistance in the way of fresh soil at the roots, have been brought to a satisfactory state again. I maintain this is generally the case with Muscats when closely pruned, they never seem to be thoroughly satisfactory for any length of time, unless plenty of young wood is retained and a gradual extension going on; but of course, as I pointed out in my previous article, other details of cultivation must be well attended to, and then, in my opinion, the results are far better than can be regularly insured under the close pruning system of pruning.

I am inclined to think there are other causes which play an important part in the production of better bunches toward the base of the rods than near the top than are brought about by pruning the leader closely in its early stages of growth. Muscats in good condition invariably exhibit this tendency, and I have many times remarked upon the same fact in connection with Vines which were allowed to retain treble the length of leader the first season than your correspondent thinks desirable, and indeed few gardeners care to cut back so severely when they have grand wood to rely upon. There are thousands of Muscat Vines now grown which produce in one season splendid canes, reaching from the bottom to the top of the roof, which are scarcely shortened at all, and yet are satisfactory in every way for years after. As far as my experience goes it is altogether unnecessary to shorten them to more than half their length, seeing that with proper attention the young rods break evenly and strongly from top to bottom, and are well able to carry a bunch or two the following season.

To my mind it is not very clear how a "close method of pruning the leader in its early stages of growth," should have the effect of inducing them to bear the largest bunches near the base twelve years after. Without doubt "people" engaged in Vine growing are anxious to cover the roof as quickly as possible, and in these nineteenth century days the principle to adopt is that by which the quickest and best returns are obtainable. A larger quantity of first-class Grapes could be produced from a given space in twenty or thirty years by replanting after half that time had expired than by cropping one set of Vines throughout. I quite agree with "E. M." that thoroughly ripened wood is an important factor in the production of good Grapes, but it is easy to see that he is a little wide of the mark when he infers that it is only in cases where "two or three" shoots are left to a spur that the long spur system of pruning is necessary. I simply advised (in cases where long shoots were left) that a shoot be retained near the base, and stopped to a couple of leaves, so that the spur might the next season be pruned back to that point. Now this shows that the necessity for a change in the method of pruning was apparent before the second shoot to the spur was produced, but independent of that fact the objection to this basal shoot is more apparent than real. As I have in no instance seen less favourable results follow, as the principal shoot grows quite as strong as is desirable, and the reserve shoot forms two or three nut-brown buds to cut back to another season, but it will not often be necessary to fruit these basal shoots the following season, as a few of the old spurs should be pruned back each season. With regard to training the summer growth of Vines thinly, I have repeatedly penned notes for the Journal in support of that practice, but the majority of Grape growers must have noticed that when Vines have been planted a few years the portion of the trellis most scantily furnished is usually exactly over the main rod. Therefore, instead of having a tendency to overcrowd the main shoots, these basal ones have an invigorating effect upon the general health of the Vine by clothing with healthy leaves the part above indicated, where they can be fully exposed to light and air.

In regard to Lady Downe's, I believe many, indeed the majority of Grape growers, will bear me out in the assertion that this fine late Grape is prone to produce irregular crops if pruned closely year after year. Among other instances I noted a striking one a few days ago, when I had the pleasure of inspecting a fine house of Grapes, the varieties being principally Gros Colman and Alicante, with a few Lady Downe's intermixed. The two first named varieties were in splendid condition, having large berries perfectly coloured (which is not generally the case with Colmans this year), and as a proof of their excellence were selling for 1s. per

pound more than any other Grapes sold in the neighbourhood, and they were purchased by a firm of fruiterers who know what they are about, as they have established shops in nearly all the large towns in the Midlands and the North. Now, in this same house were many fine bunches of Lady Downe's, perfect in shape, large in berry, and quite black. This showed plainly that the Vines were in good condition, yet the crop was irregular and not good enough to satisfy the ambitious cultivator, who intends to take a bold course in the matter of pruning this season.

I must confess I was somewhat jubilant when I read the concluding paragraph of my generous critic's note. Here he admits that with Gros Guillaume, after an eight-years trial of the close spur system, a change in the method of pruning has enabled him to secure finer bunches than at any time previous, and I predict that sooner or later he will find the same principle applies to the Muscat of Alexandria. The former endured restrictive pruning for eight years, the latter after twelve years are still satisfactory, but unless a large amount of young wood is left annually, before many more years have elapsed the gnarled and senile spurs on the Vines under "E. M.'s" charge, will cease to produce Grapes of the high quality I have seen him exhibit in days gone by.—H. DUNKIN.

IN a short note on pruning Muscat of Alexandria, p. 520, I alluded slightly to the pruning of young Vines. As the present is a suitable season for this work I will say a little more on this subject.

I have come to the conclusion that more young Vines are ruined by faulty methods of pruning in their initial stage than by anything else. I have several times inquired of gardeners why such a length of leader was left, not only the first year after planting but for several years. The answer has invariably been, "Oh, I want to cover the trellis." The question, "How many bunches do you reasonably expect that Vine to carry?" pointing, perhaps, to one that was bearing the second season's crop. "Oh, not more than four at the outside." "Why, then, do you want so many side shoots," was my next query. "I always understood that the more foliage a Vine had the greater number of roots is obtained," has been the answer more than once.

I have never yet seen Vines which were allowed to extend 6 feet annually from the first until the allotted space was covered that were satisfactory at the end of ten years, when the same Vines were planted with the idea of their giving full crops of fruit for twenty or thirty years, and this they ought to do if planted properly in well made borders and managed afterwards on correct lines. All the Vines that have come under my notice, treated in the manner described, have shown such defects—an uneven thickness of the rods, a kind of bulging out here and there, with several thin weakly parts, which cannot throw out vigorous side shoots from which good fruit is obtained. Well managed Vines ought to show a gradual decline in the size of the rod from the base to the point, no matter how long or how short it may be, whereas those mismanaged exhibit a great unevenness.

If there is an exception in the matter of cropping and strength of a more uniform character in one kind than another subjected to errors in pruning it is in the variety Alicante. The constitution of this sort appears to be more hardy and better able to contend with such faulty management in pruning. Even this variety, if allowed to cover the trellis quickly, will not last in good condition so long as Vines of the same kind which were more restricted in their youth. It is very well for those persons who have an unlimited number of vineries at command to run the rods up quickly to obtain special bunches for a few years and then replant again for the same object; but as in my case, where there are but three vineries, from which we manage to have Grapes nine and ten months of the year, we have to work on quite different lines. It is the future as well as the present that we ought to consider in the method of pruning young Vines. What is required is a sufficiency of the leading part of the rod to be left annually from the initial stage to provide all the wants of the Vine, such as a sufficiency of foliage to promote root-action, which is essential, and to give side shoots wherefrom the necessary bunches of fruit shall be obtained. Beyond this what greater length of the leader should be left at pruning time that will afford these requirements? I would ask. Is it not a waste of growth to allow more? Far better is it to concentrate the strength of the Vine in a limited space, so that some of its energy is retained until a future day, when the crop of fruit is heavier, and the Vine will have become weaker through other reasons. I have many times seen Vines with serious gaps between the side shoots owing mainly to the fact of too great a length of rod being retained each year at pruning time. Why is this? some will ask, perhaps.

With Vines, as with other trees, the sap flows to the highest point first with greater force, causing the uppermost eyes to start



into growth first; the base buds of each year's pruned leader receive the least force of sap from the flow, and consequently remain, if not quite inactive, in a weak state, never appearing to make up for the loss of energy at the outset, even if growth commences. It is the want of concentration which prevents free growth throughout the Vine in a regular manner.

I have now pointed out the evils of what I term an irrational method of pruning young Vines. The next point is how they ought to be managed so that a superior foundation is laid—not only in favour of present crops, but for the supply of fruit, which ought to be obtained from these Vines during the maximum number of years and for the better appearance of the Vines. It will be wise perhaps to commence with the pruning—quite the beginning. When planting Vines those of one year's growth from the eye are preferred to those which are older; the canes, as they are termed in that stage, will not be less than 6 feet long. My plan is to prune them for the sake of convenience at planting time to within, say, 1 foot of the soil. I prefer that their growth shall commence with about three shoots to each Vine, which better provides a choice of the best when growth commences, although I prefer that which comes from the base; but slugs may be troublesome, or an accident may take place in the shoot depended upon if only one were retained.

It is wise to remember the old adage, "safety in numbers." Even where all the buds start freely into growth, by judicious management that at the base will become the fittest to provide the future rod. At the end of the first season's growth after planting pruning is done, with a view of allowing for a pair of side shoots and a leader above the lower wire.

If it is considered advisable to allow Vines of this age to carry one or even two bunches of fruit, the pair of side shoots will provide them. It is not considered good policy to allow the leader of a young Vine to carry any fruit, nor would it be so to crop a Vine of this age with two bunches, having in view its future; but even were that so, two bunches could be easily obtained. And why, then, is it necessary to allow more shoots? The plan adopted by persons of experience in the cropping of Vines the first year is to allow one bunch each, just to prove the variety as it were. The second year the length of the leader should not extend more than 2 feet for the same reason as previously given.

Three bunches to each Vine will be a sufficient crop for Vines of this age, bearing in mind the future maximum number of years the Vines are to last. The two side shoots formed the previous season are certain to form suitable bunches, and several more growths will spring from the 2 feet of leader left in addition to the leading shoot, which is to continue the progress of the Vine for future years. The third season an extra length of 6 inches may be added to the leader if the prospect warrants such a proceeding—that is, equal strength being maintained in all parts of the Vine.—E. M.



THE WEATHER IN THE METROPOLITAN DISTRICT during the greater part of last week was distinguished by continuous dense fogs and very low temperatures. On the evening of December 25th the fog suddenly dispersed and a rapid thaw commenced, the two following days being clear, sunny, warm, and spring-like. The hoar frost had been so thick upon the trees and shrubs, that in some places when it fell it formed a snow-like covering 2 inches in depth. Very seldom does hoar frost last so long as on this occasion. Slight frosts have been experienced since, with rain at intervals, and some fine clear days.

— THE MARKET GARDENERS, NURSERYMEN, AND FARMERS' ASSOCIATION.—The annual dinner of this Association took place on the 17th inst., at Simpson's Hotel. William Poupart, Esq. (the President of the Association) took the chair, and upwards of seventy gentlemen, representative of the growers' trade in its various branches, partook of an excellent repast, a selection of vocal and instrumental music contributing to the success of the gathering. A full notice of the Association, its constitution and objects, will be found in our advertisement columns.

— DEATH OF A NONAGENARIAN GARDENER. — We hear with regret that Mr. James Williams, father of the late Mr. B. S. Williams of Upper Holloway, and grandfather of Mr. Henry Williams, died on December 24th last, in his ninety-fifth year, he having been born on January 18th, 1797. He went into the service of Mr. Warner, Woodlands, Hoddesden, December 17th, 1817, and remained in the family until he retired, some few years ago.

— HONOUR TO MR. GEORGE DICKSON OF NEWTOWNARDS, COUNTY DOWN, IRELAND.—All lovers of the Rose, whether they are personally acquainted with this renowned rosarian or not, will be glad to learn that the Lord Chancellor of Ireland has admitted him to the dignity of a Justice of the Peace for the County Down. Mr. Dickson has already filled several public offices with distinction, and there can be little doubt that his business qualities and sound sense will find ample scope in the new position he has been called upon to fill.

— NEW YEAR'S REMINDERS.—Messrs. J. Weeks & Co., Chelsea, send us a sample of the pocket book they annually distribute. It is a sound, useful book, as it ought to be, as representing this well known firm, and will be of service to its possessors throughout the year.

— GOLD MEDAL TO MR. SELL OF FLEET STREET.—We are informed that the Jury of the Exposition Internationale de la Publicité, 1891, Palais des Beaux-Arts Paris, have awarded Mr. Henry Sell the highest award—viz., the gold medal, for his "Dictionary of the World's Press," and other publications relating to advertising.

— GARDENING APPOINTMENTS.—Mr. John Tweedie, foreman under Mr. Clark, Wemyss Castle, has been appointed gardener to Sir R. Abercromby, Bart., of Birkenbog and Forglen, Banffshire. Mr. William Leath, a late foreman to Mr. Lambert, Onslow Hall, Shrewsbury, is appointed to succeed Mr. Townsend at Mytton Hall, Shrewsbury (T. R. Greator, Esq.).

— PRIMULAS.—A visitor to Messrs. J. Veitch & Sons' Nursery, Chelsea, was so charmed with the Primulas that he could not be satisfied without bringing samples with him for our opinion of their merits. Only a glance is needed for recognising the substance of the blooms, with the richness of the dark and the delicacy of the light colours. They are good in every respect, and represent excellent varieties admirably grown.

— MESSRS. FOSTER & PEARSON send us their clear and excellent almanack of twelve sheets. It is admirably adapted for offices and gardeners' cottages. A new feature is introduced in the form of excellent portraits of Mr. Jennings of Ascott Gardens; Mr. J. Douglas, Great Gearies Gardens; Mr. W. Bennett, Rangemore Gardens; Mr. Davies, Mote Park Gardens; Mr. Bailey Wadds, Birdsall Gardens; and Mr. Elphinstone, Shipley Hall Gardens.

— THE PRESTON AND FULWOOD FLORAL AND HORTICULTURAL SOCIETY.—The forty-third monthly meeting of the members and subscribers of the above Society will be held in the large room of the Legs of Man Hotel, Fishergate, Preston, on Saturday evening next, January 2nd, 1892, when Mr. John Williams, of the Priory Gardens, Penwortham, will read a paper on "Our Homes, and Climbing Plants to Beautify Them." Chair to be taken at 7.30. Exhibits of plants, flowers, fruit, or vegetables are invited.

— FRUIT CULTURE IN SOUTH AUSTRALIA.—According to official returns, lately reviewed by the *Adelaide Observer*, the area of land devoted in South Australia to gardens and orchards has advanced since 1885 from 10,775 acres to 15,362 acres, representing an increase of 50 per cent., this area apparently including that devoted to viticulture. The statistics show that the Orange, Almond, Walnut, Chestnut, and Olive are largely cultivated. The number of Almond trees is given as 134,038, or 27,768 more than last year; Olive trees, 59,118, or 11,694 more; and Orange trees 56,341, the latter producing 41,762 cases of fruit, or 3040 more. The increase in the manufacture of olive oil is even more marked. The quantity made is returned at 6838 gallons, as against 1486 in the previous year. Almond trees are stated to have produced 3311 cwt. of nuts, being an increase of 1468 cwt. In 1890 Walnut trees numbered 7644, and Chestnut trees 1128. The climate and flora of South Australia are also well adapted to the needs of the bee-keeper. According to the rough estimates of the bee-owners, 25,383 hives in the colony last year produced nearly 500 tons of honey, of which 80,793 lbs. were exported.



— **SHIRLEY HIBBERD MEMORIAL.**—At a meeting of the Committee appointed to carry out this scheme, held at Chiswick on November 17th, 1891, Dr. Masters in the chair, it was announced that the sum received from all sources was £259 9s. 6d., and that after the payment of all expenses, amounting to £38 14s. 4d., there remained a balance in the bank of £220 15s. 2d. A satisfactory portrait of Mr. Hibberd has been hung in the Lindley Library. The balance of the moneys received is, after payment of the expenses of the deed, to be invested for the benefit of the orphan daughter in the names of Mr. W. R. Hargreave, Mr. Leonard Barron, and Mr. John Collingridge. The trust-deed is to contain provisions (1), that in the event of the death of the child, previous to her attaining her twelfth year, the amount then standing to the credit of the Trustees shall be paid to the Gardeners' Orphan Fund; (2), that in the event of the decease of the child at any period between the twelfth and the twenty-first year of her age, then the moneys invested shall become the absolute property of her uncle and guardian, Mr. C. M. Mitchell.

— **THE LEE, BLACKHEATH, AND LEWISHAM HORTICULTURAL SOCIETY.**—The annual meeting of the above Society will be held at the Working Men's Institute, Old Road, Lee, on Monday, January 11th, 1892, for the election of committee and for other business. The chair will be taken at eight o'clock by John Penn, Esq., M.P., the President.

— **WE** understand that it has been arranged between the CROYDON AND THE LEE, BLACKHEATH, AND LEWISHAM HORTICULTURAL SOCIETIES to hold their respective exhibitions on different dates in 1892, and not on the same day as heretofore. The dates fixed are for Croydon, Wednesday, July 6th; Lee, Thursday and Friday, July 7th and 8th.

— **AMERICAN APPLES.**—The shipments of Apples from America to England during the week ending Nov. 28th were:—From Boston to Liverpool, 15,195 barrels; to Glasgow, 9,123 barrels; to London, 3,925 barrels; a total of 28,243 barrels. From New York, 18,298 barrels to Liverpool, 6,518 to Glasgow, 4,133 to London, and 359 to other ports, a total of 29,308 barrels; 9,184 barrels were sent from Halifax to London, and 5,358 barrels from Portland to Liverpool, a grand total of 72,068 barrels for the week. The corresponding week last year there were 1,397 barrels sent from Boston, 7,021 barrels from New York, and 8,177 from Portland, a total of 16,595 barrels.

— **THE WEATHER IN THE CRAVEN DISTRICT OF YORKSHIRE.**—The weather here during the last week has been exceptionally severe and changeable. On Tuesday, December 22nd, we registered 18° frost; on Wednesday, December 23rd, 8°; on Thursday, December 24th, 14°; and on Christmas morning the thermometer went down to 4°, or 28° frost, and at noon on the same day the thermometer stood at 8°, or 24° frost, the trees and shrubs being covered the whole day by a beautiful hoar frost. On Saturday it rained nearly all day, and on Sunday morning frost again appeared to the extent of 13°, and on Monday rain again, also showers of hail and snow during the day.—JAMES PATTERSON, *Gardener to H. Christie, Esq.*

— **MILD WEATHER IN IRELAND.**—I am not sure I should not recommend the aged and delicate to try the south of Ireland as a winter resort instead of the Mediterranean villages. I see by Wednesday's *Times*, when the thermometer registered an average of 28° Fahr. at Biarritz the average for the south of Ireland was 40°. Though inland here I cut Chrysanthemums off my garden walls uninjured and fresh on Christmas Eve, and Christmas Day was as fine, with soft genial sunshine, as a similar soft day in April or May here. In London on those and several days previously you were enveloped in a dense fog, and even policemen walked into the canal from a similar cause in Leeds. The pastures are still quite green.—W. J. MURPHY, *Clonmel.*

— **PRIZES FOR VEGETABLES IN 1892.**—We understand that prizes will be offered by Charles Sharpe & Co., during 1892, at the following floral and horticultural societies' shows—viz., The Royal Horticultural Society, at Chiswick, in July, for Peas, £2 2s., £1 1s., and 10s. 6d. Sleaford Floral and Horticultural Society, in July, for Peas, 15s., 10s., 5s. For Potatoes, 10s., 6s., 3s. For collection of vegetables (cottager and allotment holders only), 10s., 7s. 6d., and 5s. Lee, Blackheath, and Lewisham Horticultural Society, in July, for collection of vegetables, 20s., 10s., 5s. Enfield Horticultural Society, in July, for Peas, 15s., 10s., 5s. For Potatoes, 10s. and 5s. Holbeach Flower, Fruit, and Vegetable Show, in July, for Peas, 15s., 10s., 5s. For Potatoes, 10s., 5s. Heckington Floral and Horticultural Society, in July, for

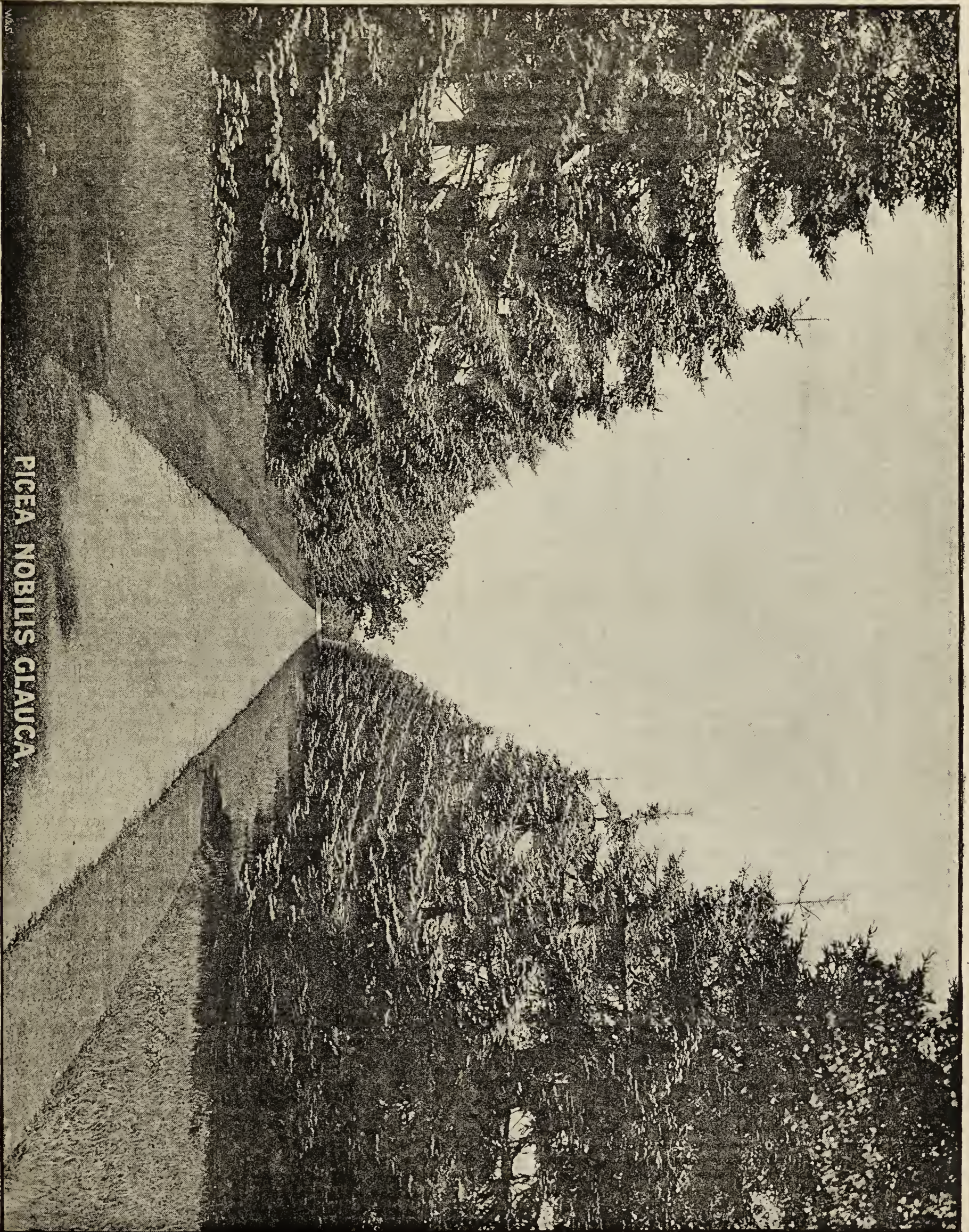
Peas, 15s., 10s., 5s. For Potatoes, 10s. and 5s. Tibshelf Floral, Horticultural, and Rose Society, in July, for Peas, 7s. 6d., 5s., and 3s. For Potatoes, 7s. 6d., 5s., 3s. For Conqueror Long-pod Beans, 4s., 3s., 2s. The Royal Aquarium Summer and Winter Garden Society, at Westminster, in July, for Peas, £1 15s., 10s., and 5s. Chertsey and District Horticultural Society, in July, for Peas, 15s., 10s., 5s. Holt Horticultural Society, in July, for Peas, 7s. 6d., 3s. 6d., and 2s. 6d. For collection of vegetables, 7s. 6d., 3s. 6d., 2s. 6d. Folkingham Flower, Fruit, and Vegetable Society, in July, for collection of vegetables, 7s. 6d., 5s., 2s. 6d. Duffield Floral and Horticultural Society, in August, for collection of vegetables in Class 2, 15s., 10s., 5s. Fulbeck Floral and Horticultural Society, in August, for collection of vegetables, 10s., 7s., 3s. Blankney Floral and Horticultural Society, in August, for Peas, 15s., 10s., 5s. For Potatoes, 7s. and 3s. Sutton Bridge Horticultural Society, in August, for Peas, 15s., 10s., 5s. For Potatoes, 10s. Long Eaton Horticultural Society, in August, for collection of vegetables, 15s., 10s., and 5s. Spondon Horticultural Society, in August, for Peas, 15s., 10s., and 5s. Basingstoke Horticultural Society, in August, for Peas, 15s., 10s., and 5s. The National Chrysanthemum Society, at the Royal Aquarium, in September, for collection of vegetables, 20s., 15s., 10s., and 5s. Sevenoaks and West Kent Gardeners' and Amateurs' Society, in November, for collection of vegetables, 15s., 10s., and 5s.

— **CALIFORNIAN FRUIT.**—Southern California will produce more Oranges this coming year than last. The crop of 1890 was estimated at 130,000,000 Oranges, which would be 1,200,000 boxes, or 4000 carloads. It is estimated that the crop will be 200,000,000 Oranges this year, enough to fill 1,850,000 boxes, or 6000 cars. Hundreds of orchards commenced to bear this year, and, of course, markets must be sought for those larger crops of Oranges. The Orange groves of California are all yet young, and thousands of acres now planted with trees have not come into bearing. In a short time production must be doubled, and in the course of a few years there will be ten times as many Oranges grown as at present. Such a production would require a market for 60,000 carloads, or four times as great a market as that now predicted. And it must be remembered that the Florida crop is not included in the above estimate. One thing is certain, railroad companies must reduce their price of freight in order to permit of Oranges being sold at lower rates in the East. Growers in California have great faith in the future, as they are setting out new orchards, though many land owners are turning their attention to other products, notably the Lemon. Lemons are cured in darkened well-ventilated buildings, and require skilful and gentle handling. Not many Lemons have been shipped East as yet from California, because the process of curing has not been fully understood, and the railroads do not give the shipments proper care. Olives are being planted largely on lands in Southern California, also Figs where water is not available. The fruit products of California are very large, and in some cases phenomenal, but the profit is not always so large as is represented in some glowing circulars sent East by land speculators. Like any other legitimate business it pays a good profit to those who follow it carefully and intelligently, and some years exceptionally large profits are made, but the business will finally settle itself down to a regular legitimate industry, with a fair average profit. One expert in California expects that State to be a large producer of tea at some future period. The one drawback to making California a great tea-growing State is stated to be the price of labour. It is quite probable that extensive experiments will be made in Southern California in the direction of tea culture.

#### A VISIT TO MADRESFIELD COURT GARDENS.

HAVING business at the well-known firm of Messrs. R. Smith & Co. of Worcester recently, I asked my guide, Mr. J. Lewis (who kindly piloted me amongst the fruit and other trees there) if I could manage to get round Madresfield before dark. The answer was, "Oh yes, I will put you right." Madresfield Court is about five miles from Worcester and a little over two miles from Malvern Link Station. The village of Madresfield is one of the most beautiful and cleanest I ever saw; judging from external appearances the cottages are models, and give an idea of comfort and contentment that is lacking in many villages. Going through a pretty lodge entrance, I soon found myself at the Gardens, and received a cordial welcome from Mr. Crump. As the day was short no time was lost in commencing to "look round," beginning with the houses. The first range is devoted to Strawberry forcing early in the season, and later on for Tomatoes and Melons. Another range was occupied by Bouvardias, Roses, and similar useful flowering plants, all in fine condition. Leaving these after a rapid inspection we came to the vineries in which some of the best Grapes I have seen this season were hanging. Gros Colman were fine in bunch, berry and





PICEA NOBILIS CLAUCA.

FIG. 102.—AVENUE AT MADRESFIELD COURT.



finish; Trebbiano was good, large in bunch, and of a fine amber colour. Alnwick Seedling was in perfect condition; also Museat of Alexandria, which were superior to many that gained chief honours at large shows. Black Hamburg was nearly over; what remained, however, indicated high culture of this good old variety, but it will soon be conspicuous by its absence at Madresfield, as the family prefer Madresfield Court, of which young Vines are commencing to crop up between the Black Hamburgs; probably another year will see the end of them. Many find this Grape very difficult to manage owing to the cracking of the berries, Mr. Crump evidently has no trouble in that respect, for better Grapes could not be desired. In answer to a question Mr. Crump said that just before colouring commenced he left a little front ventilation, as well as top ventilation, and he believes that is the secret of his success. That such treatment is correct is strongly demonstrated by the large bunches of fine well coloured berries, without the least sign of cracking.

Leaving the vineries we passed into the Peach houses, containing magnificent trees, qualified to produce the finest fruit. Pines are not much cared by the family, hence they are being gradually reduced, and the houses filled with fruit trees, such as Figs, Peaches, &c., which are more appreciated. One house formerly occupied with Pines contained some really grand Eucharises in the rudest health, and with foliage of immense size. In other houses a large quantity of Chrysanthemums were on view, all grown on the large bloom system, and splendid they were, the plants very dwarf, and the blooms large and well grown.

Time would not permit of notes being taken of the many choice Conifers, &c., in the extensive grounds; it will be sufficient to state that some of them are the finest of the kind in the kingdom. The avenue of Cedar of Lebanon is beautiful, but not equal to the one of *Picea nobilis glauca*, and which I believe has no equal.

Mr. Crump now led the way to the young fruit trees which he raises by thousands for the tenants on the estate, and better grown trees it would be impossible to find in any nursery. Some 3000 were ready for planting this season, and if the Madresfield Court Estate does not become famous for its fruit the fault will lie with the tenants and not with the owner or his energetic gardener. All the very best varieties of Apples, Pears, and Plums are raised in bulk; new kinds are very carefully tested, and treated according to their merits. In one plantation Mr. Crump has 200 varieties of Apples under trial, besides many others received from America and elsewhere which are receiving close attention in other quarters. It being now dark we looked in the fruit room by lamp light, and a grand lot of fruit was there, speaking volumes in favour of British fruit grown in good soil, favourable situation, and sound management. My pen fails to do justice to the good work going on, and to the beauties of the Madresfield Court Gardens and Estate. I left it with a feeling of gratitude to Mr. and Mrs. Crump for their kindness and hearty welcome, which had helped to render my visit very pleasant and interesting.—S. T. WRIGHT.

[The illustration (fig. 102), representing the avenue of *Picea nobilis* at Madresfield Court, was kindly supplied by Messrs. R. Smith & Co., who, we believe, supplied the trees.]

### KEEPING GRAPES.

WHEN once the leaves have fallen from the Vines the sooner the latter are also lightened of their load of bunches, pruned, and rested the better will it be for them. In addition to benefiting the Vines an early removal of the bunches is also a relief to the grower, as according to my experience Grapes can be kept more surely and with far less trouble during the winter and spring months in bottles of water than they can on the Vines. Grapes cannot long be kept in a plump presentable state in other than somewhat low and equable temperatures, and in spite of very close attention it is scarcely possible to prevent an injurious rise in the temperature of a vinery, whereas the case is very different with fruit and other rooms.

With regard to keeping Grapes in vineries up to bottling time I find I am rather at variance with some of our leading authorities on Grape culture, and have been taken to task for recommending rather higher temperatures than are supposed to be advisable. We are told the temperature of a late vinery in which ripe Grapes are hanging ought to be kept as near 45° as possible, my old friend Mr. W. Taylor holding to this theory, and he certainly kept Grapes remarkably well when at Longleat. According to my ideas, however, 50° ought to be nearer the minimum, a rise of 5°, or rather more, being allowed in the daytime. During November and December there are great fluctuations of outside temperatures, and which cannot well be prevented from affecting the interior of glazed houses. If, therefore, we allow the temperature of a house to fall to 45° in the daytime, a sudden change to cold during the night may lower the inside temperature another 5°, the berries, naturally very cold, becoming still cooler in consequence. Before either these or the house can be warmed bright sunshine and warmer outside air may quickly raise the temperature to 60° or thereabouts, and a moist coat on the berries be the result, than which nothing can well be more prejudicial to long keeping. By the maintenance of higher temperatures, this necessitating keeping the hot-water pipes constantly heated, sudden fluctuations are

far less likely to injuriously affect the Grapes, and the somewhat free use of fire heat is also conducive of a freer circulation of dry air. Whether I am right or wrong in my conclusion, there is no gainsaying the fact that our Grapes keep as plump and good as most, and nothing could well be more satisfactory than their present state. While the Grapes are hanging there is nothing to prevent the borders being freely watered whenever they approach dryness, care being taken to carry out this work in the mornings of fine days, and to ventilate freely.

Towards the end of December is a good time to cut and bottle the bulk of late Grapes, and if these fail to keep satisfactorily it may be either owing to their not being properly ripened—the colouring having been delayed till October—or else to non-attention to a few very important details. There are natural seasons of duration for all varieties, and it is very risky to try to keep them much beyond these times. Of so-called late Grapes the worst keepers are Gros Maroc and Alnwick Seedling. If these can be kept good till the end of November that is as much as need be expected of them, very few growers succeeding in keeping them any later. Black Hamburg in some few cases is kept till mid-winter, but it must be ripened late to do this, and unless I am much mistaken there will not be many bunches to bottle this winter. Gros Colman is really improved by keeping, the quality being decidedly good in March, but with us, and in many other private gardens, it cannot be kept in quantity, for the simple reason that no other black Grape is considered good enough for shooting and other parties while their more showy rival can be had. This variety ought to be quite fit for bottling now, and so also ought Alicante and Gros Guillaume, all keeping better bottled than on the Vines. The last-named should be at its best at midwinter, and it is unwise to attempt keeping it much longer, unless indeed the bunches are much below the average in size. Lady Downe's and Mrs. Pince's Muscat are the two longest keeping varieties in cultivation, and should be taken care of accordingly, all other sorts being used up before many of these are sent to the table or market. Both keep well till May. The Muscat of Alexandria will keep good till March, and Mrs. Pearson and Golden Queen still longer. Trebbiano I do not grow, but have known it keep plump and good till the middle of March.

In each case it will be found that freely thinned medium-sized to small bunches invariably keep the best, the reasons for this scarcely needing iteration, and I will only add that it is advisable to keep these to the last, using the larger and very compact clusters first, the latter being most liable to decay wholesale, owing to a single unsound berry not having been seen and cut out in time. All alike should be perfectly free of any rubbish, or anything that would start a spread of fungus in the footstalks, an open interior being also most desirable. Both before and after bottling a daily look out ought to be kept for decaying berries, the timely removal of one of these frequently saving the best part of a bunch.

The question now arises, What is to be done with the Grapes where there is no regular store-room for them? But this is a difficulty easily overcome in many cases, though perhaps not generally. Modern fruit rooms are not as a rule the best places for keeping Grapes, the majority of them being far too well heated or else too airy to meet the requirements of the case. Heaps of Apples especially are scarcely fit associates for Grapes, though if kept clear of all decaying fruit it is doubtful if Apples greatly interfere with the keeping of the bunches.

It must be understood that I have seen many failures as well as successes in keeping Grapes, and have well tested a great variety of storing places. None that I have tried in the way of makeshifts for regular Grape rooms, or as good substitutes for the same, have answered so well as an unoccupied bedroom facing north. The walls are all thick, the ceiling comparatively low, the window tight-fitting, and the floor free of currents of cold air. There is a fireplace in this room, but this is never used—but, on the contrary, is blocked to prevent draughts as much as possible; the room is further darkened, the window never opened, and the door opened as seldom as possible. Beyond this no attempt is made to prevent fluctuations of temperature, and, as may be imagined, these frequently fell below freezing point last winter. In spite of this our Grapes never kept better, the last of Lady Downe's being used about the middle of May, though they would have kept still longer. Grape rooms ought, therefore, to be constructed or selected on somewhat the same lines indicated, everything being done to guard against rushes of either cold or warm air, the latter being particularly to be guarded as containing most moisture at this time of year, extremes of heat and damp being also guarded against.

When there are a large number of bunches to be bottled, either a series of rails for suspending bottles from, or better still racks for resting them in a sloping direction, ought to be fixed, no great amount of ingenuity being needed in the matter. If the fruit room has to be utilised, then the simplest plan is to cut notches in



the front boards of the shelves to hold the necks of the bottles, a strip of wood, unless the shelves are latticed, being also necessary to prevent slipping back. It is of the greatest importance that the bunches swing quite clear of the bottles, their own weight accomplishing this if rather small bottles are suspended from rails. No particular kind of bottles are needed, though I prefer them to be of clear glass, and use as many soda water bottles as I can get. There is nothing to be urged for or against using soft water or lumps of charcoal in water of any kind. The good charcoal does have never been apparent to me. I use nothing but clear hard water, and take good care that the wood reaches well into this, there being then no necessity for adding more later on. The bunches are cut with a good length of lateral growth attached, that part below the bunch only being trimmed so as to get it into the bottle easily. If need be the wood beyond the bunch can be inserted in the bottle, reversing the positions not affecting the keeping properties of the bunches in the least. Bottles must not be filled with water, or some of it may be driven or trickle out into the bunches; but there must be no mistake in a contrary direction, the wood not reaching the water, or shrivelling quickly ensues.—W. IGGULDEN.



#### NOVELTIES IN CHRYSANTHEMUMS.

HAVING read with much interest Mr. Molyneux's remarks on the above, and hints from other of your correspondents, I think I may venture to name some not mentioned up to date, knowing that many of your readers are on the alert for novelties of merit. The varieties I am about to name are of American origin, except where otherwise mentioned.

*Flora McDonald*.—A charming incurved variety of the Queen form; a good deep solid flower of a creamy white tint, nearly as large as the above mentioned, and very tightly incurved. This is a really good variety of dwarf habit.

*Aeta* is another incurved variety, somewhat like Mrs. Coleman in form but brighter in colour, having more gold about it; very dwarf in habit, and should make a good front row flower.

*John Farwell* is charming, something after the form of Sunflower; colour the brightest crimson. The flowers fill well, and are nearly as large as the above-mentioned, and keeps a long time in perfection, which alone should recommend it. This will make a good exhibition variety.

*Lizzie Cartledge* has been mentioned I know, and received a certificate. All I have to say of this—it is one of the strong growers, about 5 feet high, promises to make a good show bloom.

*Harry E. Widener* is a very promising variety of the bright yellow class, in this respect resembles *Soleil Levant*, though a larger and fuller flower; the outer florets are split at the ends, giving the flower a chaste appearance. Height about 4 feet.

*Elmer D. Smith* promises to be a charming variety of exquisite colour; when opening reminds one of *Triomphe du Nord*, changing to almost the colour of M. N. Davis. The outer florets are long and flat, twisting somewhat like Mrs. J. Wright in the centre. This is a good flower, quite distinct, and is a rather strong grower; height about 5 feet. I think this will become popular when better known.

*Frank Thomson* is late with us, which may be remedied another year. This is a large flower, the petals incurving slightly, full in the middle; colour creamy white centre, the outer florets blush pink; very promising.

*Mistletoe*.—If this keeps its character it will be an acquisition; in colour it is of the silvery pink class. A large spreading flower, about 7 or 8 inches across; the florets are incurved at the tips, while it is very full, the inner florets whirling in an extraordinary manner, very much resembling J. C. Price in this respect; dwarf in habit.

*Mrs. R. J. Baylis*.—I am told this much resembles the new seedling Robert Owen in colour, though I have not seen it; the florets are broad and incurving. Very promising.

*Mrs. Needs*.—The variety here mentioned was sent out from Chilwell this spring. It was much admired during our show. In form and colour it much resembles *Belle Paule*, though much dwarfer in habit; many visitors declared it superior to that esteemed kind. We had handsome blooms upon cut-down plants; in fact, it seems to do better under this treatment than the general way of running up though our plants were not stopped early enough in the season. The middle of June would be about the right time. This is a local seedling.

*E. G. Hill* has turned out a good variety if not too late, though much may be done with management. The colour is of the brightest golden yellow, the florets broad and of rare substance; altogether a noble bloom. An award of merit was granted at the last meeting of the R.H.S. for this novelty. The variety is a very strong grower. Height 6 to 7 feet.

*Edwin Lonsdale*.—I expected to have heard more of this, for it is one of the best of the deep purples. We have had fine solid blooms keeping for weeks, the blooms about 7 inches across by 4 inches deep. This wants a long season, as it is one of the strong growers, producing an enormous amount of large foliage, which perhaps accounts for its scarcity at the exhibitions this season, through lack of sunshine. It should be stopped early, as the buds are a long time swelling. It does well cut down the first week in May.

*Golden Mme. Pages* will prove a very useful Christmas decorative variety; it is of the sweetest yellow, with silvery reverse, somewhat better in form than its parent, which itself is one of the most useful varieties for late work in existence. Hundreds of plants are now at their best in one of the large houses here. They were in strong demand for Christmas and will continue through January. This kind will be distributed from Chilwell in March.—J. PITHERS.

#### INSECTS OF THE FLOWER GARDEN.

(Continued from page 469.)

WE have now reached the ant tribe, in our notice of a division of the four-winged insects, called the order of Hymenoptera. Every gardener knows ants full well; scarcely a garden is without its colony, or its several colonies, of some familiar species. Occasionally we find a foraging party has entered some house, drawn there by the attraction of ripe fruit perhaps, or it may be a predatory excursion in pursuit of other insects, or else they are seeking to regale themselves upon the juices of tender plants. A great variety of opinion exists, as we might anticipate, on the question whether the small amount of benefit possibly derivable from the proceedings of ants entitles them to any mercy at our hands, or whether it is not quite overbalanced by the mischief they do. Amongst our borders and flower beds, however, the ants cannot be said to be conspicuous as troublesome insects; sometimes they raise unsightly hills on lawns or paths, and some people condemn them because they appear to be collectors and nurses of the aphids, which is one of our worst enemies in all departments of the garden. The late Mr. Wood maintained that in the flower beds ants were not injurious. He believed that they devoured many minute insects; also that, like the bees, they might help fertilisation by carrying pollen attached to their bodies from one plant to another. Then in the case of choice flowers, such as the Rose, which ants might happen to frequent, he pointed out that they could easily be kept off by winding round the stem a piece of cotton wool, which is an article through which they cannot pass. Again, as to their intrusions into houses. It has long been known by traders that if a chalk line be drawn round the top of a tub or cask the ants will not cross this to attack the contents. We may, therefore, by rubbing some chalk along the edges of shelves in a greenhouse keep away ants from any pots that they seem likely to infest. If it should be thought necessary to diminish their numbers in a garden ants may be trapped by putting down slices of Apple, on which they will congregate in scores, or by laying along their haunts strips of rope that have been moistened with syrup. Their nests when discovered may be destroyed by the application of quicklime. Diluted petroleum is also used for this purpose, and also gaslime. Some gardeners fire off ants' nests by dropping into them on a dry evening a small quantity of gunpowder, which they explode by a bit of touch-paper tied to the end of a long stick. Of the species occurring about gardens the yellow ant and a small brown species are the commoner, but some damage is also done to oldish fences by a black kind, which, however, cannot touch wood quite sound.

In many districts the sand wasps are not unfrequent visitors to gardens, and they decidedly resemble the true wasps, their form being slender, the body banded or spotted, black, yellow, and red often occurring amongst them, hence they are rather conspicuous. A few of them, like the common *Ammophila sabulosa*, have long, spiny legs. This is about an inch in length, and distinguishes itself by being a busy destroyer of caterpillars. By means of its legs and jaws it excavates on some sandy bank a burrow or chamber into which it carries the caterpillar of some moth. Then an egg is laid, a second caterpillar obtained, and another egg follows, probably a third or a fourth; for each a caterpillar is provided. The burrow being closed, the insect commences another, and so proceeds till all her eggs are laid. This, therefore, is a beneficial insect, but its relative, the hairy sand wasp (*A. viatica*) occupies a different position, because it chiefly attacks spiders; and though we must allow that the webs of spiders are not ornamental in garden walks, yet they certainly dispose of a large number of flies and other insects, troublesome to us in various ways. It is, however, a curious instance of retribution in Nature, that spiders, great killers of insects, should form the special prey of one species of insect. The spider, however, that is their mark is not one of the web-weavers, but one of the hunters, which



darts upon its victims from hiding places, lurking under the leaves of plants or loose fragments of the soil. One who has often watched these sand-wasps in a garden says that he, or, rather, she, pursues the chase with a fury, quickness, and eagerness, hunting about here and there, beating the ground carefully over as a pointer beats a field. The spider, when caught, seems unable to act on the defensive. It is, as soon as seized, pierced by the wasp's sting in the centre of the thorax, and rapidly borne off to a cavity prepared for its reception. Having thrust the body into the hole, the insect lays upon it one or more eggs, afterwards filling the hole up with earth, and levelling the surface so that it may not present any unusual appearance. All the time it is at work the sand-wasp makes a shrill piping noise.

Another of these wasps, which is minus an English name, is called *Mellinus arvensis*. It is about half an inch in length, black, banded with yellow, and is common in gardens, haunting particularly any spot where manure has been recently deposited in search of the flies likely to hover about. This insect makes a chamber in the earth, which it stores with flies for the food of its young. Being a somewhat clumsy flyer itself this wasp has to try stratagem, and when it sees one of its objects at rest it goes towards the spot and passes to and fro in an indifferent manner, gradually coming nearer till it pounces suddenly on the fly and carries it off.

Some of the solitary wasps form burrows in wood that is beginning to decay. They are partial to the sprays of the Bramble, and in gardens they visit the stems of the Rose. An abundant species is *Trypoxylon alternatum*. Its nests are small and very curious. We have reason to suspect the existence of one when we see a little round hole in a Rose branch. If it be the fact that this species stores up aphides for its progeny we must pardon it for attacking the Rose, especially as it does not meddle with wood quite sound. Amongst the family of the Philanthi are several that are familiar to the eye as being lovers of flowers, being often noticed basking upon Umbelliferous plants. Some of these wasps bore into wood, some into banks, and capture a variety of insects, such as caterpillars and flies. One species has been found to destroy quantities of bluebottles. Another species hunts up weevils, and actually hides in its burrows; amongst others, that well known enemy the grooved weevil, *Otiorhynchus sulcatus*. Some surprise has been expressed that the young wasp should be able to feed upon such a hard-cased insect, but it appears that the weevils are buried some time before they have to furnish food, and by this means they become softened, so that the jaws of the grub can penetrate them. The common social wasp is often to be seen flying about flower beds; it is then seeking to make prey of various insects that are attracted to the flowers.—ENTOMOLOGIST.

### PROFITABLE FRUIT GROWING.

[A paper by Mr. S. T. WRIGHT, Glewston Court Gardens, Ross.]

So much has been written and spoken of late years on the subject of fruit growing, that any addition thereto would seem to be useless. Some of our teachers, however, are men who are so evidently without experience that intending fruit growers are liable at the outset to be led into serious errors, which are almost certain to result in failure. I hope therefore you will pardon me if I have founded this paper on my own practical experience in a modern fruit field, containing some 6000 dwarf trees (Apples, Pears, and Plums), which was planted shortly before the present fruit growing craze came to the front. The locality is about two and a half miles from Ross, in Herefordshire, above the fog line of the River Wye. The position is admirable, being about 180 feet above sea level. The soil is a warm-looking loam, on the old red sandstone, and in some places rather shallow; the rainfall moderate.

The first planting was made in the autumn of 1883. The plantation is, I think, unique, there being no standard trees in it. A few trees were planted experimentally at a distance of 6 feet, the main body at 8 feet apart. Guided by our experience, when planting more trees two years ago, every other of the 6 feet trees was removed, and the new ones planted at 9 feet. I do not wish to speak too decidedly, but my impression is that this is not far out. For the first year or two we planted Potatoes between the rows of trees, but after that the network of roots ran across the intermediate spaces, and I think it is a mistake to allow anything to interfere with them. I confess to seeing no advantage in planting standard trees. Dwarf or bush trees require no staking when planted, and they come into bearing at once. I may here say that we have picked 23 lbs. of Apples from trees planted two years ago, which could not happen with standards for some years later. All work (pruning and gathering fruit) is done from the ground, which is a distinct economy. The fruit is not so much exposed to high winds, and there is less risk of its being bruised in falling. Planting standards is planting for posterity, which is in direct opposition to the spirit of the age, which demands quick returns.

To listen to all that is said or written it might be supposed that it is only necessary to plant a fruit tree in order to gather a crop of Bank of England notes. Let me try to dispel the illusion. Probably no calling

or profession has so many difficulties to contend with as that of the fruit grower. Success depends not alone on the competency of the grower, but on a favourable combination of circumstances, any one of which being wanting may imperil the success of the whole. For a full measure of success we require suitable varieties of fruit for the district, a favourable climate and position not too much exposed, good soil, where necessary well drained, intelligent management, and careful and honest packing. Over these matters we may have some control, but there are other elements not under our command. A season too wet or too dry, late frosts, an insufficiency of sun to mature the wood and buds for the next season, gales of wind, insect and bird pests, reasonable railway rates, fair prices, and an honest salesman.

When naming pests, I would wish to express my regret that I am deterred from speaking as decidedly as I could wish to do on some points. In 1887 our plantation was attacked by the caterpillar of the winter moth, and owing to our ignorance of its habits, &c., a year was lost before we could take effectual steps to combat it. We applied grease bands in the autumn of that year, and although I am a great believer in their efficacy, they can only be satisfactorily applied to standard trees, owing to the short stems of dwarf trees. I may also say that very great care is necessary that the grease should not come into contact with the bark—especially of young trees—otherwise the result will be disastrous. The caterpillar attack was so severe, that in the month of June, 1888, there was hardly any sign of vegetation left on the trees. The next season, 1889, the attack being again severe we set to work with Paris green, and as the hatching of the caterpillar goes on for three months we were compelled to syringe all the trees ten times. Some injury was done, but on the whole there was not much to complain of, and the treatment proved so successful that we were only obliged to syringe twice in 1890, and once this season, and the trees are all in splendid condition. But the result was that we lost three crops. Many gardeners who have suffered little or nothing from caterpillar attack are somewhat incredulous as to the value of Paris green, and hesitate to use so deadly a poison. I have, however, no reason to doubt its efficacy, as I have found quantities of dead caterpillars on the leaves, and as to the risk it practically amounts to nothing if carefully handled. There is another enormous benefit resulting from the use of Paris green, and that is the utter destruction of the codlin moth, the grub of which causes such wholesale falling of our Apples. We have not seen anything of it this season. We have now an apparatus, specially made for us by Messrs. Boulton & Paul of Norwich, and fitted with that capital little invention, Stott's sprayer, which enables us to go over 2000 to 3000 trees a day with a minimum consumption of water. In saying anything about our bird pests, I feel that I tread on dangerous ground. It would be foolish to deny that all of them do some good, but there are some birds whose evil doings exceed the good, and which should be destroyed as far as possible. These are the sparrows, blackbird and tits; all others, except perhaps the robin, should be encouraged.

To revert to my more immediate subject. It will readily be understood that there is no more a royal road to fruit growing than to learning; the path is beset by many a thorn. I need hardly insist upon the absolute necessity of careful selection of the site for a fruit plantation. Nor ought there to be more need to urge the nature of soil. As well put an Orchid in clay as expect good results from inferior and unsuitable soil and climate. Not that I would insist that fruit cannot be grown on any but first-class soils. I merely wish to urge upon you that really first-class results can only be attained through first-class surroundings. Drainage is essential with a retentive subsoil. The next point is the choice of trees to plant. By preference I should plant Apples; the crop is not so risky as either Pears or Plums, and there is less liability to damage on the way to market. Plums must be sold on arrival; but Apples, in case of a glut, can be held a day or two. We come now to the general management, and it must be clearly understood that I am laying down no hard and fast laws for other growers, but simply giving my system in my own soil and climate. The trees having been planted, and having come into bearing, I advocate summer pruning, as I think the removal of all useless young growths tends to throw vigour into the wood and buds of the next season, and thus promotes the ripening of the same. I think more pains should be given to intelligent pruning; but no doubt gardeners will (as they always do sooner or later) rise to the necessities of the case.

In my somewhat light soil and porous subsoil, I find it of advantage to turn over the surface to a depth of 2 or 3 inches each spring; the moisture is better retained, and the warmth of the atmosphere acts more rapidly on the roots. I do not find root-pruning at all needful, the crop of fruit should render it unnecessary. Still, doubtless it may be of value in some cases. Under this head manuring fairly comes. Dung of a fair quality is admitted to be a perfect manure, but when it comes to buying, carting some miles, and barrowing and spreading between the trees, it must be acknowledged that it is very costly. Not only so, but dung differs largely in the nature of its constituents, according to the feeding of the dung-producing animals, and therefore the grower is working in the dark. Many people are prejudiced against the use of artificial manures. And I would here warn my brother gardeners against indulging in any prejudices—they are a bar to progress—I am not allowed to indulge in any. There is this to be said, many experiments must be made and much time lost before anything approaching certainty can be arrived at. But so far as my experience goes, as good fruit can be grown with artificial manures as with dung, only at present we must act with caution. I look to the day when



"practice with science" will enable us to be independent of dung. This is the more desirable, because I hold the opinion, that instead of our trees bearing good crops every alternate year, they should by the aid of manure produce as a rule good average yearly crops, and that would be one way of avoiding seasons of alternating glut and famine—extremes of low and high prices. The proper use of manure should be to develop the strength of the tree, so as not only to produce fine fruit one year, but to forward the maturity of the wood (especially in years of low temperature) which has to build up the next season's buds. Every year will, however, add to our knowledge on this point. Meanwhile this is I think what we should aim at.

There is a point as to which my theory has been so far better than my practice. I am of opinion that all small and imperfect fruit should be picked off so soon as proof of their being inferior is clear. By that process the size of the remaining fruit will be increased, and there will be less labour in grading for market, and a higher average of price, but great courage is needed to do this.

I would now pass to the question, What class of person must the fruit grower of the future be? This is a very debateable matter. Whoever he be, he must have plenty of capital and backbone, he will find ample need of both. The farmer is not qualified by his technical education, and of recent years his outgoings have been so much in excess of his incomings, that it is more than doubtful whether capital would be forthcoming. A separate class must come into existence, whether of gardeners who could get sufficient capital to work a few acres, or a combination of the capitalist to furnish the sinews of war, and the gardener to supply the rest. Even then the matter is not very simple, because the gardener must not only be capable as such, but he must be able to conduct all the various steps necessary, from selecting and planting the trees, to packing and marketing the fruit. In fact you require an all-round man, and where is he to be found in quantity? He has to be raised, and no doubt will be in time. As to the sorts to be selected, and many other matters, I would refer you to a little pamphlet just issued by the Royal Horticultural Society, and which embodies the opinions of forty able authorities on all points of fruit growing, and I only demur to two of their recommendations. It recommends planting the Blenheim Pippin. To which I say "Don't." Life is not long enough; and it gives too many sorts. A little time will be well spent in finding out those which suit the soil and climate, and then have the courage to resist the inclination to buy more than half a dozen varieties. What consumers want is a regular supply of so far as can be of the best sorts. As to early or late kinds of Apples, it is an open question.

Our supply should come in before the American and Canadian shipments interfere with them, and after the best of them have gone into consumption, avoiding also competition with the Tasmanian imports, some of which are excellent. There is less expense with the early sorts, as they go directly into consumption from the trees, whereas the late kinds must be housed, and there is some loss by rotting, and also in weight, still the enhanced price of the late kinds may compensate. Whatever the sort, they should be carefully handled and honestly packed. When I was at the Edinburgh Show a fruiterer said to me, "It does not suit us to buy English fruit, as you cannot depend upon it; usually there is a good sample on the top, and a lot of rubbish underneath; now with the American Apples it is different, they are of one quality throughout." What a short-sighted policy this shows on the part of English growers, and how it involves all of us in an undeserved suspicion of rascality; you may depend upon it that honest packing will meet with its reward.

Local trade should receive more attention. There are places where growers sent supplies to Covent Garden, while at the same time local retailers supply themselves from that centre. Wherever your produce goes, let it be carefully selected with regard to quality, size, and appearance; every producer will have his own ideas as to markets and salesmen. We are guided more by the salesman than by the market, and believing our salesman is an honest man—which I am sorry to say cannot be said of all—the bulk of our fruit comes to Manchester. Well, supposing all to be gathered in, the moment has arrived for looking over results and facing facts as to fruit-growing for profit; possibly in the course of the year you have built castles in the air which are never realised. If you can secure a fair price the result would be very satisfactory; but how about a year such as the present, when Plums and Pears have been a perfect glut? Let us look practically into the matter. On the one hand we have to pay rent, tithes, rates, taxes, interest on capital, labour, manuring, railway carriage, tolls, portage, and salesmen's commission. On the other hand are our receipts.

Owing to the frost on the 16th of May our Plum and Pear crop has been small. Our Apple crop has, however, turned what would have been an actual loss into profit. The size of what Plums we had was, according to our salesman, A1, and yet the top price was only 7s. per cwt., or say 4d. per lb. Of that the railway company took about 1d. per lb. or one-third of the gross value. Pears have been very disappointing; a large grower told me that he sold his W. Bon Chrétien at 6s. per cwt., the sample being good, many of the fruit weighing 1 lb. each. After paying railway and other expenses little is left for the grower. The ways of the railway company are incomprehensible. They charge us 38s. 4d. per ton for Plums for preserving purposes, and 26s. 8d. per ton for Apples, a difference of nearly 12s. per ton. Why? Partly encouraged by low preferential railway rates, and partly owing to the low price of labour, which is some countries half the price of ours, foreigners have not only established a large trade with this country, but are straining every nerve to increase their production.

Still, in spite of all, I am sure there is a future for fruit growing. Englishmen, as a rule, are fond of grumbling at their climate—mainly, perhaps, because they are not obliged to live in another. Is there any other climate which grows finer men and women, finer horses, cattle, and sheep, finer crops of grains, finer vegetables and fruit? If that be so, does it not prove that, take it all in all, there is not much ground for grumbling? In 1889 I sent up Apples to Covent Garden, and the salesman reported that no such fruit had been seen there that season. This year I have sent Peasgood's Nonesuch Apples to Manchester, which have sold at 30s. per cwt. Our salesman, Mr. John Mills, said they were the best grown Apples in England or America, and that on the same date the best American Apples (Ribston Pippins) sold in Liverpool at 24s. per barrel of 140 lbs., or 19s. 3d. per cwt. There is, therefore, no ground to despair, but there is abundant reason to be certain that such results can only be attained under the most favourable conditions. There is much to be said against putting all our eggs in one basket. Damsons will do admirably as bush trees, and are excellent to plant for shelter of other crops, and they have paid better than Plums this year. With soft fruits we possess a great advantage over our Continental rivals, as they cannot put such goods on our markets in a presentable condition. Green Gooseberries I do not include amongst soft fruits, and the French send large supplies keeping down our prices. Black Currants and Raspberries are very easy to grow, and if the cultivation is good they are remunerative. For fine fruit cleanly gathered there is always a good demand.

Strawberries have been so extensively planted of late years that they do not fetch such prices as they did, and it is an open question if it will pay to add much more to the enormous quantity already under cultivation, as the demand cannot be unlimited. However, by growing a variety of crops, it must be a wretched season indeed if all fail. I have now been through my subject. It is in no way my wish to discourage fruit growing on sound principles. I have spoken frankly on my own experience, and have shown you both sides of the picture. I have not the smallest doubt that when fruit growers have selected the right spot to plant the right sort of trees, where they have sufficient capital, average intelligence, and untiring perseverance, they will succeed. I am equally certain that numbers of those who have started these undertakings without the above elements of success will hopelessly fail, and, as a matter of fact, some are already falling out of the race. The universal law of Nature is invariable—the law of the survival of the fittest.—(*From the Manchester Conference Report.*)

#### THE ASHFORD VINEYARD.

MESSRS. A. & J. QUERTIER have, under the able management of Mr. Stephen Castle, made the Ashford Vineyards famous throughout these isles for the grand crops of Tomatoes and Grapes that are grown there. All the houses are built on the Jersey principle—light, commodious, and well ventilated, but the heating is open to improvement. The season throughout has been against Grape culture in unheated structures, and those defectively heated have suffered correspondingly. The ground on which these houses have been placed has a gentle slope to the south, and is fairly well sheltered from the north and east, but exposed to the west winds. The work of describing these houses is simplified by every house being numbered. Nos. 1 and 2 are mixed houses, and call for no particular comment other than the Vines were planted in 1890 and 1891 respectively, and are carrying a few bunches for the first time. The varieties are Hamburgs and Gros Maroc. In the No. 2 house Tomatoes are grown in pots, which are set on each side of the path and trained to strings up to the roof, and have done remarkably well as the stalls will show; but when we come to No. 3 one might linger and look on in such a house for a very long time without wearying. This house was planted in March, 1890, with Muscat of Alexandria, not cut-backs, and now with the Vines but a little more than a year planted are carrying from four to ten bunches of Grapes from each, some of the bunches weighing 5 lbs. The success here attained is of no ordinary character, and a few more particulars respecting this house and the borders may prove of interest.

The house itself was originally a Cucumber house, and has bottom heat pipes beneath the border, being the return from the top pipes which heat the atmosphere. If the one is to be heated the other must be also. The border in which these Vines are growing is not more than 9 inches deep, and was during the early stages of their growth confined to a width of 3 feet, but is now allowed a run of 5 feet or a little less. With such a border and heat beneath watering must be attended to with judgment. It will be of considerable interest to myself, probably to others, to watch the behaviour of these Muscats in heated borders, as the idea is not new, for I believe some such arrangements were made many years ago at The Denbies, Dorking, and for a time very fine Muscats were grown, and the heated border had the credit for it, but when others adopted it they were not so successful. On inquiring of Mr. Castle whether he had any faith in bottom heat, and whether he had any fear of the Vines going back after a time, he was very sanguine of its good, and hoped I should see them again another year, and his manner left no doubt as to what his expectations were—viz., that they would be better than they are now.

No. 4 is also a span-roof, and was planted on one side in 1889 with several kinds, there being Vines of Black Hamburg, Madresfield Court, Black Alicante, Gros Colman, and one or two Gros Maroc. These Vines were also remarkable for the weight of Grapes they were carrying. They are allowed to carry a bunch, whether large or small, to



every lateral, and in the space of 6 feet run of rod in several instances fourteen bunches of Grapes could be counted, so close that the bunches touch, and which Mr. Castle puts, and I think without exaggeration, at more than 40 lbs. weight for each rod. This sight drew from me the exclamation that the weight was too great; but my guide again pointed out the strong leaders, as thick as one's middle finger, that the Vines had made and clothed with plump buds, giving promise for better results another year. The remaining portion of this house was planted in 1890, and these young Vines were allowed to carry two or three bunches of Grapes near the surface of the border, and the deep black colour and fine bloom on some of them gave evidence that they had plenty of strength. One bunch on a Gros Colman Vine was so much like Alnwick Seedling in every particular that if cut and staged as such it would deceive the best judge, but strange, the remaining bunch exhibited Gros Colman in its true character, and the young rods they have made left nothing to be desired.

The borders to this, as well as to the several other houses that succeed it, are planted in the natural soil, which is a sandy loam of moderate depth resting on gravel. The ground was previously cropped with Potatoes, and all the preparation made for the reception of the Vines was to trench 18 inches deep, no manure or anything else being added. Length, 78 feet. The description of No. 4 also applies to No. 5, except that the house is rather longer; and No. 6 is 90 feet long, was planted in 1889 with Gros Colman and Muscat of Alexandria, and here the crop was almost as prodigious as that in the two preceding houses. No. 7 is 120 feet by 20 feet, also planted with Gros Colman; and to give some idea of their health and strength a leaf of one of the Vines in No. 7 was measured and found to be 15 inches long by 15 inches broad. The whole of the foliage look healthy, and have not that parched appearance that marks this kind in many places. No. 8 is a large span-roofed house about 100 feet long by 20 wide, and was planted last March with Gros Colman. It was from this house the fine crops of winter Tomatoes were taken. The Vines are planted at the front of the house near the hot-water pipes, and the Tomatoes are on either side of the pathway near the centre, and are up to the roof. No. 9 is a lean-to, and was one of the first to be planted with Vines. This house, which is in three divisions, is 200 feet long. Many of the rods were carrying 40 lbs. of Grapes. Some bunches of Alicante and Gros Colman would turn the scale at 5 lbs., and to show that there has been no diminution in their strength is seen by the leaders, which have this season reached the top of the house, and they are apparently as strong as though the Vines were carrying no Grapes, at least as strong as it would be safe to be consistent to getting them well ripened.

The remaining long range, which is 130 feet long in three divisions, and probably 30 feet wide, the first division entered was planted this spring with Gros Maroc, and the Vines were making excellent progress. Mr. Castle made this house the first to point to convince me of the damage done by frost last March after the Vines have commenced to move into growth, as they were killed to the ground, but this I can readily understand with the imperfect heating arrangement, for which he is not responsible, and which it is his wish to remedy (and no man is better able to do so) at the earliest possible date. Whatever check these young Vines may have had early in the season, they leave under the able management here nothing to be desired, as many of them have grown to the top of the house, a distance of not less than 30 feet. The next division is planted with Muscat of Alexandria, and these also are as promising as the first division. The last division is planted with Alicante, and all are doing well, as there are two sets of Vines in each of these divisions, one set on each side close to the pipes at the outside of the house and another set on either side of the path, which is down the middle, and at the usual distance, 3 feet apart, that being the distance allowed here; each row contains twenty-five Vines, or 100 to each division. As I have previously stated, no manure is put into the border at planting time, and it must be patent to all that something must be given to maintain the strength and vigour of these Vines, and this, Mr. Castle assures me, is silicate, for except a little cow manure that has been had very recently for mulching purposes, and which has not had time to benefit the crop, no other manure has been had on the place. The silicate, which has the appearance of sand highly charged with ammonia and other fertilising matter, and is in the form of a dry powder. This is strewn over the surface of the border, and watered in with the hose. It would be useless to attempt any such an undertaking as is here seen without a good water supply, which is provided on the spot by erecting large galvanised tanks at the highest part of the garden, which are filled by means of pumps worked by a gas engine, and stand pipes are set at convenient places in the houses, so that every part of the borders can be reached.

Grapes are not the only things grown at these Vineyards, as there has already been upwards of four tons of Tomatoes packed off the present season, and that they have been fruitful there can be no question, and the first bunches have formed within a few inches of the ground. There was also a large stock, 1000 plants, of Elaine Chrysanthemums, which were looking remarkably well.

The Grape room is not by any means one of the least interesting features of this fine establishment. This is situated at the back of the range of vineries No. 9, which are lean-to. The range of sheds run the entire length of the houses, which, it will be remembered, are 200 feet long. The first portion is used as a packing shed, store room, and for various purposes; but the far end for about 30 feet has been made into a Grape room, and is a model of its kind, and is another mark of the original and practical mind of the Superintendent. The whole of this

range is heated with a flow and return 4-inch pipe. The division that has been fitted up for the Grape room has hollow double front walls, and boarded roof covered with asphalt, and being on the north side of the vineries it is not affected by solar influence. The entrance to this room is provided with double partitions and doors, so that on entering the first door may be closed before the second is opened, so as to avoid an inrush of dry air. The front and back of this room is boarded up, and by means of angular blocks screwed to the boards, on which another board is fastened, forming pockets or brackets, are formed the entire length, into which small champagne bottles are set at suitable distances, a small block fastened at a certain distance up the boards at the back, and at the right height to prevent the bottles tipping up with the weight of the bunch when that is inserted. The house was empty at the time of my visit, but those who have seen this house with a great number of bunches of Gros Colman hanging say it is a sight not easily forgotten, and it must be good to fully answer the expectations of the designer. While many growers have cause to complain that their Grapes deteriorate in colour when bottled, Mr. Castle declares that his improve considerably for a very long time. His method of testing that is somewhat new to me—viz., to stroke one of the berries with his finger, and he avers that the mark in question will be almost effaced after a time, which is proof that the change in the berries is going on in the right direction. The room is perfectly dark, but means are provided for ventilation by means of ventilating shafts let into the roof at suitable distances. In conclusion I may be permitted to say that however much there may be to admire at this Grape-growing establishment at the present time there is proof everywhere that greater results are to follow, and in the near future too, for Mr. Castle is not one of those men who need three or four seasons to establish Vines in a fruitful state.

—C. WARDEN.

### FEEDING OUR FRUIT AND VEGETABLE CROPS.

COMPLAINTS about the ineffectiveness of applications of bonemeal or other plain phosphates or superphosphates to orchards, vineyards, small fruit patches, and vegetable gardens are nothing at all uncommon. Yet such negative results are just the ones that should have been expected. Why? Because the substances named have little or nothing of value besides phosphoric acid, of which fruit and garden crops require very small quantities.

The following table will show, approximately, what great demands for potash fruit and vegetable crops are making on the soil. This table gives the number of pounds of the principal plant foods removed in a full crop.

FULL CROP, PER ACRE.	NITROGEN, LBS.	POTASH, LBS.	PHOS. ACID, LBS.
Apples, 15 tons .....	30	45	3
Pears, 10 tons .....	12	36	10
Plums, 2 tons .....	16	8	2
Grapes, 4 tons .....	13	40	12
Sugar Beets, 20 tons .....	110	72	12
Carrots, 20 tons .....	70	150	24
Mangolds, 20 tons .....	90	160	18
Turnips, 20 tons .....	75	110	25
Onions .....	32	26	23

In all this we have not yet taken any account of the plant foods that have gone into the foliage and the wood of the trees and bushes. Here again potash is just the substance needed in considerable quantity. The leaves dropping in autumn may remain on the ground under the trees and bushes, and thus return their constituents to the soil; or they may be blown away by the autumn gales into fence corners, road sides and ditches, and thus be lost to the soil. The prunings also may be burned up in the orchard or fruit patch, giving their mineral constituents back to the soil; or they may be carted off and burned in some back field, where the ashes will do no good to the orchard. Usually there is from these sources at least some loss, chiefly in potash, that, together with what the fruit crop has taken off, will have to be made good again by application of manure.

The table here given may not be more than approximately correct, yet it shows that in fruit crops we remove from the soil an amount of potash, ten, fifteen, and often more times as large as that of phosphoric acid. Many farmers imagine that orchards need no manuring. Perhaps a crop of grass, with all its large amount of potash, is taken off besides. With such great and incessant drain on the potash supply, it will not be long before that supply is getting too short to allow healthy growth of tree, vine or bush, and a full crop of fruit.

Phosphoric acid is used in only small quantities. For these reasons bonemeal, phosphates, &c., alone, are not what is wanted for a fruit tree manure. Potash is needed more than any other substances, and unleached wood ashes is one of the best forms, if not the very best, in which this can be applied. Where good ashes can be bought at ten to fifteen cents a bushel, we will not often be able to get a better or cheaper fertiliser.

—Prof. C. C. James, of Ontario, Canada, recommended at a recent fruit



growers' meeting the following formula for compounding a cheap and effective orchard fertiliser:

- 40 bushels of unleached ashes.
- 100 pounds of crushed or ground bone.
- 100 pounds of sulphate of ammonia, or nitrate of soda.

This quantity is to be applied at least once in two or three years. It supplies about 120 lbs. of potash, 23 lbs. of phosphoric acid, and 20 lbs. of nitrogen.

Nitrogen, if such be needed in greater quantities, can be obtained in a much cheaper way by the help of crops that are nitrogen gatherers (such as Clovers and Peas, which should be left on the ground to decay), than by outside applications.

In a majority of cases, perhaps, yard manure is the only form in which plant food is ever given back to the orchard or fruit garden. Twelve tons of it will furnish the 120 lbs. of potash needed, but also two or three times as much phosphoric acid and nitrogen as required for the crops. It will hardly be good economy, therefore, to use yard manure exclusively, especially if we should have to purchase it at anything like full value. The cheaper way would be to apply a smaller quantity of yard manure, say one-half of the named quantity, or six tons, every second or third year, and add to it the missing 60 lbs. of potash in the form of unleached wood ashes, muriate of potash, sulphate of potash, kainit, &c. My ration for the yard manure and potash salts combined would be six tons of the former, and 120 lbs. of muriate or sulphate of potash, or 500 lbs. of kainit; and would prefer to apply this every second year at least.

We should fully understand, however, that simple phosphates alone are no manure for fruit crops. Potash, on the other hand, is the chief substance needed, and we cannot easily apply it in too large doses for fruits. A sufficiency of potash makes bush and tree fruits finer, sweeter, better in flavour, and renders the wood more resistant to severe cold.

Vegetable crops usually make still heavier draughts on the potash stores of the soil than fruit crops. In Carrots, Mangolds or Turnips, for instance, we remove over 100 lbs. of potash per acre, if the crop be simply a fair one, and perhaps over 200 lbs. if it be a heavy one. This loss, of course, is usually made up by heavy dressings of yard manure, every ton of which returns to the soil about 10 lbs. of potash. This calls for applications of at least from fifteen to twenty tons of such manure per acre for every crop, and for larger ones, where very large yields are obtained or aimed at. In every event, yard manure will be found a most excellent fertiliser for these crops, and one of the best means to maintain the balance of soil fertility.

The query now comes up, what to do in case that yard manure is not available? Perhaps the grower, following the advice given by expert gardeners, has used bone flour or other phosphates for some time as a substitute for yard manure. He may have been very liberal in his applications, using a ton or more per acre; yet in all this dressing he has not furnished a single pound of the potash so urgently needed, only a large quantity of phosphoric acid, for which his crop has little use. Consequently the crops must soon suffer for the want of potash, and perhaps of nitrogen.

Having made the correct soil diagnosis again, the proper treatment is easily prescribed. Apply potash, and perhaps some quickly available nitrogen. My rations, in such case, would be almost as follows, per acre—viz.

- (1). 50 to 100 bushels of unleached ashes.
- 200 to 400 lbs. of nitrate of soda.

The phosphoric acid, contained in the ashes, would do no harm, and in some cases may be needed.

- (2). 200 to 300 lbs. of sulphate or muriate of potash.
- 200 to 400 lbs. of nitrate of soda.

—(From *Practical Farm Chemistry*, by T. GREINER, La Salle, N.Y.)

### BRITISH GROWN FRUIT.

ILLUSTRATIVE of what Mr. J. Wright says at page 509 regarding the superiority of home-grown Apples. Upwards of a quarter of a century since I had on hand a large quantity of Apples saleable to fruit merchants at a price that would barely pay the working of them, although they sold similar fruit at from 2d. to 3d. per lb. I had the fruit graded, and sent a hamper of them, mostly Keswick Codlins and "Perstons." These pleased so well that an order in several days arrived for upwards of a dozen similar hampers, and this dozen hampers was the immediate cause of more orders than I could supply, while the smaller and deformed fruits brought a higher price amongst poorer people than I could possibly get from any fruit merchants. While I bear no malice towards fruit merchants, I have a strong antipathy to goods rising in price more than 100 per cent. to the consumer above what the raiser or producer realised, and I am astonished at the latter abandoning the custom of olden times dealing direct with consumers, who, as a rule, laid in stores of fruit annually of the good keeping sorts, and this from the poorest to the more wealthy, the quantity being regulated by their requirements and purse. All had their store of Apples, the rich getting the luxury of Apples cooked with sugar. Its high price in those days compelled the artisan to be content with his Apple in its uncooked state, or, as a luxury, roasted or boiled.

There can be no question that as home-grown fruit becomes more plentiful a different mode of putting it into consumers' hands must be adopted than is practised at present; but if it is to be successful there

must be co-operation, and a system established that fruit will be always plentifully exposed for sale, but never in excess. A few years since two persons belonging to my native town established a system of retailing groceries at as low a price as was paid for the same goods wholesale. This system has proved successful, and is rapidly extending to most places and commodities, and is already being felt by the monopolising fruit merchant, who, notwithstanding the competition, clings tenaciously to his 100 or more per cent. system, and even the most wealthy will not fail to discover that Apples can be had at half the price at their grocers a few yards distant.

Producers must agitate and teach the public to their mutual interest before it is too late. The present generation have not the experience or the knowledge of many really good things in domestic economy which our forefathers had. Then there are too few Fenns to experiment and lecture us. Many luxuries and comforts are denied us because of our obstinacy in following fashion and custom. The producer must use every legitimate means in his power to spread the knowledge of good and bad fruit; and how to secure the latter to the interest of all concerned.—W. T.



### HARDY FRUIT GARDEN.

APPLES AND PEARS—PRUNING ESPALIER TREES.—Proceed with this when the weather is mild enough. All remains of shoots that were cut off at the summer pruning may now be still further reduced to about 1 inch in length, cutting them off just above a bud. All weak wood should be cut off close to the main branches, and the remainder thinned if they are not 3 inches or more apart. Cut all wood clean out that has a soft or greenish appearance, which shows that it is unripe and useless. Any spurs that are more than 2 inches in length must be shortened back to a bud or cut out altogether. The uppermost branches, being the most favourably situated as regards the supply of sap, are very apt to produce these long spurs, and also strong woody pieces, which never make an attempt at fruiting. If not over-abundant the latter should also be taken clean out, but if the tree produces many of them it is a sure sign that the supply of sap is in excess of the requirements of the tree at its present size, and some of the roots must be severed before this state of things can be remedied. Young shoots at the ends of the branches should be preserved if any extension in the size of the tree is desirable, but they must be shortened to about two-thirds of their length in order to make them produce fruit spurs. This form of tree will produce a large quantity of fruit in a small space for a number of years, and is particularly well adapted for small gardens where they may be trained near to the walks without shading the ground overmuch, or taking up room required for other things; but when they get old the lower branches gradually lose their strength and die away, until only the two upper ones are left, when the trees become unsightly. Unfortunately there is no remedy for this state of things, although careful pruning in a young state will extend the period of usefulness for several years, but when they become old the best plan is to cut them down and plant young ones instead.

The above remarks on pruning apply equally to horizontally trained trees on walls.

STAKING AND TYING.—The best plan to support espalier trees is with iron uprights fixed in stone and fitted with fencing wires at one foot apart, on which the main branches are to be tied. Care must be taken that none of the iron uprights is placed against the main stems of the trees, as this would in time cause much inconvenience and damage to the trees. The old system of training them to stakes may be followed if the above is impossible. Ash stakes are very good, selecting them straight and clean and about 2 inches in diameter at the thickest end. Pull the old stakes out whole, if possible, as leaving the broken ends in the ground only encourages fungus among the roots. Stakeing and tying is warmer work than pruning, and may be done in frosty weather if the ground is not too hard.

CORDONS.—All kinds of these require similar treatment to the above as regards pruning. They are more inclined to run into wood than to form fruit spurs, and this is especially the case with low-trained horizontal cordons at the bend of the branches if they are on free-growing stocks. Root-pruning judiciously done is the only remedy.

CLEANSING THE TREES.—All moss and lichen, wherever it is found, must be cleared away periodically from Apple and Pear trees, as it stops the pores of the skin and harbours insects which attack the fruit and foliage. Where only a few trees have to be attended to they may be scraped with a knife in the affected parts, but where large quantities are grown, and in the case of large standard trees this is impracticable, and the next best remedy is to throw lime over the tops of the trees when they are moist enough for it to adhere to them, and to whitewash the main stems and large branches with hot limewash. American blight and canker are generally found together, although we do not suggest that canker is caused by the insects. The worst places should be pared with a knife to get rid of all excrescences. Next wash the wounded



places thoroughly with a solution composed of 4 ozs. softsoap and 1 oz. carbolic acid to a gallon of water, working it well in with a stiff brush, and if it can be applied hot it is best to do so. This will effectually kill any insects that remain, and stop any others from coming for a time. As soon as the wounds are thoroughly dry they should be still further protected from fresh attacks. Where only a few have to be done this may be accomplished by covering them with cold grafting wax, called also *Mastic l'homme Lefort*. If a large quantity require attention it is much cheaper to melt some pitch and cover the wounds with it. The new bark will grow underneath this, and the wounds will eventually heal completely.

**PROTECTION FROM RABBITS.**—During severe weather these vermin often attack young fruit trees in exposed places, and in a few hours will ruin a large quantity by gnawing the bark from the stems. All such trees should therefore be protected by rabbit-proof fencing or wire netting as soon as planted. The latter must be let into the ground to a distance of 6 inches, and should stand 3½ feet above the surface, but not fit too closely to the tree, as the stem should have room to swell for a few years. Another good plan often practised in the Kent plantations, which also secures the trees from the attacks of all kinds of cattle, is to take some stakes (old Hop poles are used in Kent), cut them into 6-foot lengths, bore a hole through each at 1 foot from each end, and thread wires through them when placing them around the trees, leaving plenty of room for the trees to swell. A length of 3 feet is sufficient protection against sheep and ground game. This system also shades the stem of the trees from bright sunshine, preventing excessive evaporation, and is better for this purpose than haybands and similar materials, as it is not so liable to harbour insects.

**THE FRUIT ROOM.**—Look carefully over stored fruit regularly once a week and remove all that show signs of decay, but do not move the sound fruits if it can possibly be avoided, as every movement when the fruits are ripe tends to bruise them and starts decay. Cover well in frosty weather if the room cannot be warmed. Newspapers are a great protection, and can be put on without any fear of damaging the fruit. Hay or straw may be placed over these in very severe frosts. One or two petroleum stoves will keep frost out better than any covering if no other means of heating are available.

#### FRUIT FORCING.

**VINES.**—*Early Forced.*—Exercise great care in ventilating, avoiding chills, such as those resulting from cold currents of air, admitting it chiefly by the top ventilators, and only moderately when the air is cold and sharp. As the foliage is developing root action will be excited, and should be encouraged by supplying tepid water at a temperature not less than the mean of the house, nor exceeding 90°. If fermenting materials have been introduced into the house they should not be allowed to decline in warmth, but be added to from time to time, having a good heap of leaves and stable litter in reserve, from which the supply of sweetened material may be drawn as required. The outside borders must be well protected from frost. Disbud and tie down the shoots before they touch the glass. Do not be in too great a hurry in stopping nor restricting to a certain number of joints, being guided in this respect by the space at command and the vigour of the Vines. If weakly stop them at three or four joints beyond the bunch; if strong they may be pinched at one joint beyond the fruit, and then pinch to one joint as regards the weak shoots, and leave two or three on strong growths after the flush of sap has been centred on the bunch, extending the growth so as to insure a supply of well-developed foliage all over the house, avoiding overcrowding in any part, not allowing any to be made for which there is not room, or that must afterwards be removed. Remove surplus bunches as soon as choice can be made of the best, reserving the most compact, and avoid overcropping. Maintain a night temperature of 65° until the flowers open, then keep the house at 75° by artificial means, with a rather drier condition of the atmosphere.

Vines in pots should, as soon as the fruit is set, be copiously supplied with liquid manure, maintaining a moist atmosphere by damping the paths two or three times a day, and occasionally with liquid manure, keeping the evaporation troughs charged with the same, taking care not to use the liquid too strong, or the ammonia will injure the foliage.

**Houses to Afford Ripe Grapes in June.**—The Vines for this purpose must be started at once, for, though they may be forced so as to afford fruit in May, they are best brought forward gently and a margin allowed for unfavourable weather. The outside border should be well protected from inclement weather. If fermenting materials are used they must be kept uniform in temperature, and if that cannot be effected it is better to dispense with them altogether. A good thickness, say 6 inches of dry leaves, dry fern, or litter, with shutters or glazed lights to throw off rain and snow, answer admirably. Inside borders will need thorough supplies of water at 90°, which will warm the soil and cause the roots to transmit sap freely. Fermenting materials introduced into the house, and formed into a ridge-like heap on the floor, and turned over frequently, adding fresh as necessary, will give out heat, moisture, and ammonia, highly conducive to a good break, and save fuel. The temperature should be maintained at 50° to 55° by artificial means, advancing to 65° from sun heat. Damp the house and Vines two or three times a day, but do not keep them constantly dripping with water, for that only encourages aerial roots, and in dull weather sprinkling once or twice a day is ample. Ventilate freely on all favourable occasions, for a sweet atmosphere is felt by dormant Vines; at least, those brought forward in a properly ventilated structure do better than those kept in a confined atmosphere.

**Houses from which the Grapes Have been Cut.**—Delay in pruning

Vines after the leaves fall is undesirable, because they are not given that complete rest which pruning and keeping them cool assures. Healthy Vines may be cut to one, or at most, two buds, but weakly Vines, and those with long-jointed wood, may be kept a little longer, cutting in all cases to a plump bud. This will cause the spurs to sooner become long than by close pruning, and necessitate a renewal of the rods, which it is easy to effect by training up young canes for the displacement of these, or by having a succession of rods from the main rod, and cutting out those that reach the extremity of the space to a cane nearer the base and well situated for displacing that cut away. Thoroughly cleanse the house, and remove all loose bark, but avoid close peeling and scraping the Vines, as is often done, down to the wood, and wash them with tepid softsoap and water, following with an insecticide if there have been any insect infestations. Remove the surface soil or mulching down to the roots, and supply fresh material, good fibrous loam being the most suitable, with an admixture of bone meal. The house should be kept cool, but vineries are frequently utilised for plants, and the temperature kept warm on their account, which is prejudicial to the Vines. The plants are not always clean, and the insects pass from them to the Vines, hence so many vineries are infested with mealy bug, red spider, and thrips. The temperature ought not to exceed 45° by artificial means, and plants only needing protection from frost should be placed in vineries when the Vines are at rest, and air should be admitted upon all favourable occasions, so as to keep the structures as cool as possible.

**Late Houses.**—In some late houses the leaves are not all fallen, the Vines keeping the foliage a longer time than usual in consequence of the wet season and unusual moisture in outside borders. The leaves must be cleared away as they become ripe, and this should be effected without brushing the Grapes or raising dust by sweeping up the fallen leaves. Maintain a mean temperature of 45°, with a dry atmosphere in houses in which Grapes are hanging. Examine every bunch frequently, and remove all decayed berries. Ventilate the house on fine dry mornings, and keep it closed when the weather is damp, but there must be a gentle warmth in the pipes to prevent a stagnant atmosphere. In the case of late Grapes ripened comparatively early, and those are the best for keeping, the Grapes may be cut, the ends of the stems being inserted in bottles of rain water secured in an inclined position so as to admit of the fruit hanging clear of the bottles. Any dry room will be a suitable place where an equable temperature of 40° to 45° is maintained. This will admit of the Vines being pruned and the house cleaned, the Vines thus having a few weeks' complete rest, and with that they start strongly when set to work, as they should be soon after the middle of February.

#### PLANT HOUSES.

**Lilium Harrisii.**—If these have been grown cool since they were potted the plants will be strong and about 18 inches high. Keep them near the glass in a temperature that does not fall below 45°. A little artificial manure may be applied to the surface. Later bulbs that are only 5 inches high should be placed on a shelf near to the glass in a cool house, where plenty of air can be admitted daily when the weather is mild. Bulbs of *L. eximium* may now be potted, 5-inch pots are large enough for these. Use the soil in an intermediate state of moisture, and do not water the bulbs after potting. Place them in a frame or cool house where frost can be excluded, and cover with cocoa-nut fibre refuse until they grow through.

**French and Fancy Pelargoniums.**—Plants raised from cuttings and placed into 3-inch pots should be ready for 5-inch size. Pot these in loam, sand, and one-seventh of manure. After potting place them on a shelf in a cool house where they are safe from frost. Water these plants carefully; in fact, the whole stock if overwatered at this stage is almost certain to be spotted.

**Cyclamen.**—Pot seedlings singly into thumbs if not already done, and arrange them on a shelf close to the glass where the temperature ranges from 55° to 60°. Fill between the pots with sand, ashes, or cocoa-nut fibre refuse to prevent their drying. Seed sown at the present time will be capital for flowering next winter. Sow the seed in pans filled with leaf mould, loam, and sand. When sown just cover the seeds with fine soil, water them, and cover with a square of glass. In a temperature of 60° to 65° they will soon germinate.

**Greenhouse Climbers.**—These should be well thinned and pruned so as to admit full light to the plants beneath. The houses must be washed and cleaned at the same time, and the plants tied into their places again ready for growth in spring. Top-dressing these plants may also be attended to; if left until the spring the pressure of more important work often prevents this being done until it's too late in the season to benefit the plants much.

**Lapagerias.**—Plants that have been kept close have practically ceased flowering. These may, if infested with insects, be loosed from the trellis. Some care is needed, as the foliage is easily broken. Thrips are the greatest enemy to the Lapagerias, and the best means of destroying them is to dip the plants in a solution of tobacco water. The portion of house they occupy can be washed, and the plants retrained. In doing this portions that have flowered may be removed down to where a growth bud is observable. If not removed these ends only die back. If the plants are confined at their roots a top-dressing of rich material composed of cow manure and loam will assist them greatly.

**Roses.**—These in cool houses may be thinned, and any pruning necessary must be done at once. If red spider has infested the plants, the whole of the old foliage may be removed with little or no injury. If the old leaves are left on the spider is certain to attack the young growths. Such varieties as Gloire de Dijon, Lamarque, Maréchal Niel, and others



require very little pruning, only unripe ends need removal. The dwarf growing Teas may be liberally thinned out unless buds only are needed, and then the more wood left the greater the quantity of buds produced. H.P.'s and Teas established in pots may be pruned for starting. We have found them start well in a cool house on a bed filled with leaves without the aid of heat unless the weather proves cold and severe. Nothing is gained, but puny blooms result if the plants are hurried in their early stages.

## THE BEE-KEEPER.

WE have to state that the article which appeared on page 582 of the *British Bee Journal* of the 24th inst., headed "An Explanation," and signed T. W. COWAN, Editor *British Bee Journal*, was premature. We had consented to allow Mr. Cowan to publish an explanation in our columns, and a proof print was sent to us for approval. This proof print was returned by us on the 21st inst. with certain alterations, some sentences being expunged which we considered libellous, and the actual form in which we finally agreed to publish it was as follows:—

### AN EXPLANATION.

To the Editor of the *Journal of Horticulture*.

I have had the *Journal of Horticulture* sent me, and my notice has been directed to an editorial explanation on page 485.

In your zeal to do justice to your correspondent you certainly appear to embrace the opportunity of being unjust to your contemporaries. When I wrote to you on the 19th September last, "I can find no allusion made in the *Record* about Punic bees, either editorially or by any of its contributors," I did so in perfect good faith, but I frankly admit that I was led into the error by an unintentional oversight on my part. To have admitted that Punic bees had been once alluded to editorially in the *Record* would not have altered the nature of the statement, as there was no question about this paragraph, but about a reference by your correspondent to an article in which there was no mention of Punic bees at all. Any unprejudiced person can see that the editorial allusion you quote has nothing whatever to do with personal experience, as it is couched in general terms, just as the same term "our limited experience" is daily used in a legitimate way in ordinary language in connection with things the writers have had no experience about, but about which they are writing from the reports of others. Such language is in daily use in all our papers, and it would be a stretch of the imagination to attribute personal experience to the writers.

The context will also show that it is more the expression of the limited experience of "A Hallamshire Bee-keeper," who had just been given as the authority, as he was the only one who had said anything about Punic bees, and this in the concurrent number of the *British Bee Journal*. This reply given by Mr. Carr could not have been from personal experience, as he had never seen a Punic stock, and knew nothing about such bees; in fact, although Mr. Carr was anxious to do Mr. Hewitt full justice, so little value did he attach to these bees that there is no reference to them in the index, hence the reason for my overlooking the paragraph referred to. Mr. Carr seemed perfectly oblivious about this paragraph, and I am not surprised at it. The first description of Punic bees was given by Mr. Hewitt in *B. B. J.*, on page 271, 1890. He again refers to them on page 511, and on page 512 Mr. J. Luck asks for results respecting Punic bees from those who have tried them. There was not a single response to this appeal from anyone who had tried them except Mr. Hewitt himself. He had already had full justice done him, and we naturally wanted to hear about the experience of someone else besides Mr. Hewitt. No one will be surprised that after such a complete failure of reports, Mr. Carr should have dismissed the matter from his mind as being of no importance.

Now, sir, I think I have just cause for complaint. When I placed all the papers before you (including the *Record* of June containing the passage now referred to), you promised to have the matter investigated, and in your letter to me of the 23rd of September you stated, in reply to my letter of the 19th of September: "When Mr. Wright returns to the office I will authorise him to see to the matter." Mr. Wright was to have returned about the 2nd of October, and not hearing from you I wrote on the 22nd of October, and from your reply on the 23rd of October I gathered that you had not made the investigation which you had promised to make, although a month had elapsed. Had you made this investigation probably the error, which I am sorry was made, would have been detected and avoided.

You refer to this mention of Punic bees, and take the opportunity of saying: "In the *British Bee Journal* for August 27th, 1891, page 381, the same Editors, in reply to 'Inquirer,' say, 'We know nothing about the so-called Punic bees, and can give no informa-

tion as to their value.'" This reply to "Inquirer" was written by me alone, and I was speaking of my own experience and not of Mr. Carr's. You will see by the *British Bee Journal* that I am responsible for the conduct of this paper, while Mr. Carr conducts the *Record*, so that there was no inconsistency in my reply of not knowing anything about so-called Punic bees, and you must disconnect Mr. Carr, the writer of the reply in the *Record*, from my reply in the *British Bee Journal* altogether. But, after all, one of the main points at issue was the statement in the article by Mr. Hewitt in the *Journal of Horticulture* on the 3rd of September, in which he says: "They do not say that the Punic stock in Mr. Carr's apiary in the spring of 1890 was the 'best and strongest' he had" (see *Record* for June, 1890). On reference to the article from which the quotation is made by Mr. Hewitt, it will be seen that there is no mention whatever about Punic bees or to a Punic stock in Mr. Carr's apiary. The article refers to quite another matter altogether—namely, to virgin queens sent out to test a wintering theory of the writer's. I have simply to emphasise what I have already said, that I know nothing about so-called Punic bees, although I know North African bees very well, more especially those of Algeria, Morocco, and Tunis. Some of these days I shall have plenty to say about the bees of this last place, also about the apiary belonging to a French gentleman (whose name, for obvious reasons, I withhold), and who exports Tunisian bees, and whose apiary I intend visiting during my rambles in Africa, whither I contemplate going for the purpose of finding out why the bees of Tunis are not pure, like those of the same varieties in Algiers, and why they sometimes show yellow bands.

By arrangement with the Editor, the above explanation will be printed in the *Journal of Horticulture*.—T. W. COWAN, Ed. *British Bee Journal*, 7th Dec., 1891.

\*\*\* We ought to add, for the information of many of our readers who may be unacquainted with these two bee journals referred to above, that both of them are announced on their wrappers to be, "Edited by Thomas W. Cowan, F.G.S., F.R.M.S., &c., and W. Broughton Carr."

## APIARIAN NOTES.

### THE WEATHER.

ON December 23rd the thermometer rose during the day from 20° to 40°. Being calm and mild, many of our stocks took an airing, and we were delighted to see the lively Punics on the wing. It seemed there was more than a mere flight in the air, as many bees scoured the garden in search of flowers. Hellebores are in great profusion, and on the eve of flowering; Snowdrops are showing distinctly, also Crocuses; Wallflowers have never deserted us, nor the Primrose, and the Daffodils disdain not to give proof they will not allow a gap to be made, but will in succession and in season enliven our borders and make the bees merry. The Winter Aconite and Anemones will soon also contribute their share of usefulness, the last two excepted; all the others mentioned promise to be early and abundant.

### THE PAST YEAR.

The year 1891 has been an eventful one, and bee-keepers have shared in the calamities, at least the majority have; and as is the case in the failure of other rural pursuits, the million become sufferers. A good bee year is always a good one for horticulture and agriculture, and all are benefited thereby. Nothing of importance which is likely to benefit bee-keepers has been brought before the public if we except the great development of fruit growing in some districts. Extensive orchards are one of the mainstays of bee-keepers, and bees are the insurance agents of fruit growers, so both must go together. Several prizes have been awarded by the B.B.K.A., and several patents have been taken out for inventions that were made, used, and sold many years since, but blunders such as these never occur amongst men of experience.

### THE SELF HIVER.

This new invention has been put to crucial tests in some places, but has not been as yet a success, nor do I think it likely to be. There are easier and profitable methods of managing the apiary. But the funny part is, and prompts the question, why a self hiver, when the advocates have for so long advised non-swarming bees, non-swarming hives, and the prevention by giving timeous super space. If swarming could be prevented there would be no need for self hivers. The *Journal of Horticulture* is



the only journal that practically showed the impossibility of the prevention of swarming by any of the modern methods of management as advocated and practised previous to our letters in this Journal, and appears to have enlightened the bee-keepers of America as they have done some in Britain.

Those who cannot attend their bees during the honey gathering and swarming season, or act in accordance with the instructions laid down in these pages, should not keep bees if they expect to be successful with them. Particulars as to what to do regarding swarming, and how to guard against the loss of absconding swarms, will be given during the coming spring.

Bees never swarm without preparing some days beforehand, but they swarm at all times of the day between 6 A.M. and 6 P.M., and under every known condition, plenty of breeding space with a young prolific queen excepted. When several swarms issue at the same time they create confusion, and damp the hopes and spoil the plans of the keeper; queens are killed, and not unfrequently whole swarms. To avoid these losses is the object of this letter.

The bee-keeper should never have his eye off the apiary during the swarming and honey gathering season, and if this is impossible, someone should be employed to do so. When one swarm issues and the hives are in a convenient place, most people will secure it easily; but when several attempt to swarm at the same time, unless the attendant does something more than stand and gape, even although he hives the huge cluster of bees, they may shortly thereafter unobserved leave the hive, as several queens is one of the causes of unsettled swarms. Swarms about to issue should not be closed in, as that, through the excitement, overheats the hive, which creates incipient foul brood.—A LANARKSHIRE BEE-KEEPER.

(To be continued.)

#### TRADE CATALOGUES RECEIVED.

Charles Sharpe & Co., Sleaford, Lincolnshire.—*Catalogue of Garden and Farm Seeds.*

J. Cheal & Sons, Crawley.—*Seed List, 1892.*

Dobbie & Co., Rothesay.—*Catalogue and Competitors' Guide, 1892.*

Ellwanger & Barry, Rochester, N.Y.—*List of Bulbs and Hardy Plants.*

Chr. Lorenz, Erfurt.—*Illustrated Catalogue for 1892.*

Little & Ballantyne, Carlisle.—*List of Garden Seeds, 1892.*

Wm. Cutbush & Son, Highgate and Barnet.—*Catalogue of Flower, Vegetable, and Farm Seeds, 1892.*

C. Fidler, Reading.—*Catalogue of Vegetable Seeds and Potatoes.*

Dickson & Robinson, 12, Old Millgate, Manchester.—*Seed Catalogue, 1892.*



\*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

**Unanswered Letters.**—Replies to several letters received during the "holiday season" cannot be published this week.

**Camellia Buds Falling** (R. S.).—There is no doubt whatever that the dry heated air from the hot-water pipes is the chief cause of the evil; it is possible, too, that the plants in pots do not have the support they need, and a gentle stimulant such as soot water might be beneficial. If the stage is of open latticework you would do well to cover it with something that would hold a layer of gravel, and by keeping this moist and syringing the pot occasionally the flowers of the Camellias would probably expand.

**Potatoes for Planting an Acre** (J. J.).—As obviously the weight of sets for a given extent of ground depends not on their size alone, but on the distances at which they are to be planted, in answer to your question we can only suggest a 'case. Suppose the sets are planted a foot apart in rows 30 inches asunder, 17,424 will be required for an acre; and if they average 2 ozs. each their total weight will be 19 cwt. 1 qr. 22 lbs. By weighing a few sets and deciding on the distances for planting you will now have no difficulty in making an approximate estimate of the weight you will require.

**Microcarys Tetragona** (W. M. T.).—The Tasmanian plant concerning which you inquire is one of the most remarkable of the Conifers found at the Antipodes, and indeed in the whole family. The



FIG. 103.—MICROCARYS TETRAGONA.

great peculiarity of the plant is that the female cones are of a semi-transparent texture, fleshy and most brilliantly coloured, being of a rich red hue that in sunlight is very striking. These cones, though small, are borne in considerable numbers on short branchlets, and, the main branches being of a decumbent or drooping habit, the plant has a graceful and really beautiful effect grown in a pot with the main stem secured to a stake. It is found growing on the western mountains of Tasmania, where it forms a low straggling bush, the branches being four-angled, as the specific name indicates, the leaves small and closely pressed to the stem. It was introduced to Kew about 1862 by W. Archer, Esq., of Cheshunt, and several plants in the temperate house there succeed very well and produce their attractive cones very freely. Several Conifers produce coloured fruits, but in most cases it is a disk, aril, or some appendage that is so coloured, and not a true cone, as with the Microcarys. For instance, the fleshy aril of the common Yew is well known, and in the genus Podocarpus several similar examples occur, one of the most noteworthy being *P. neriifolia*, the Oleander-leaved Podocarp. The fruit of this species has a large fleshy globular or ovoid bright red disk about half an inch long, upon the top of which is seated the seed, a true fruit about the size of a large pea, but more egg-shaped and bright green, forming a most peculiar contrast with the richly coloured disk.















